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THE GULF PUBLISHING COMPANY

The OIL WEEKLY and The COMPOSITE CATALOG for the drilling-producing-pipeline industry

PETROLEUM REFINER and The REFINERY CATALOG for the refining-natural gasoline industry

LOOKING AHEAD
... with the Editor

E. N. KEMLER, professor of mechanical engineering, Purdue University, has written a series of four articles which will appear shortly in THE OIL WEEKLY, the first dealing with "Physical Properties of a Reservoir and Reservoir Fluids," and the second with "Effect of Physical Properties of Oil Reservoirs on Flow Performance." Nos. 3 and 4, respectively, are parts I and II of his discussion of "Application of Reservoir Data to Production Problems." Profusely illustrated with charts, these will doubtless contribute much to the discussion of oil-reservoir behavior.

THE OIL MAN'S CALENDAR

APRIL 3- 4	Interstate Oil Compact Commission, Quarterly Meeting, Roosevelt Hotel, New Orleans.
10-12	National Association of Corrosion Engineers, Annual Meeting, Rice Hotel, Houston.
12-14	Natural Gasoline Association of America, Baker Hotel, Dallas.
13-14	American Petroleum Institute, Eastern District, Division of Production, Deshler-Wallick Hotel, Columbus, Ohio.
24-25	National Oil Scouts and Landman's Association, Hotel Adolphus, Dallas.
MAY 8-10	Regional Meeting, American Institute of Mining and Metallurgical Engineers, including Petroleum Division, Rice Hotel, Houston.
8-10	National Oil and Gas Power Conference (Oil and Gas Division, Power Division) ASME, Tulsa.
25-26	Spring Meeting, Mid-Continent District, API, Division of Production, Mayo Hotel, Tulsa.
JUNE 13-14	Spring Meeting, Southwestern District, API Division of Production, Rice Hotel, Houston.
OCT. 12-13	Texas Mid-Continent Oil & Gas Association, Houston.
NOV. 13-16	American Petroleum Institute, Stevens Hotel, Chicago.

THE OIL WEEKLY

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The Changing Panorama

Getting Discharges For Oil Jobs

WITH the return of several thousand honorably discharged war veterans to civilian life each month, oil companies should not overlook the opportunity to employ these men wherever possible. Adoption of a definite policy to give these veterans first choice of jobs they can fill is an obligation.

The War Manpower Commission is encouraging men able to work to accept employment in war industries in which they can best be utilized for the war effort. However, full opportunity and freedom to choose their vocations and to obtain jobs of their choice upon initial entry into civilian employment is afforded such veterans.

One company is providing each of the draft boards within a 35-mile radius of its plant at Philadelphia, a weekly list of the jobs open at the plant, the type of men required and what experience, if any, is needed for each task. In addition the company offers these discharged veterans an opportunity to receive instruction in such cases where they are qualified by experience or education to receive additional knowledge in the servicing, operation and maintenance of industrial instruments.

Such a plan is applicable generally. Veterans released from military service for disability or other reasons are required to visit their draft boards as soon after their discharge as possible to receive their 1-C card proving discharge status. By listing available jobs with the draft boards, oil companies would thus get first chance at many qualified men. Also such a plan would be a great help in helping veterans to a readjustment to civilian life.

Plenty of Oil Seen By Heater Institute

MEMBERS of the Oil Heating Institute of America, struggling with the problem of supplying enough btu's for their customers' oil burners, doubtless derived cold comfort from reports that, contrary to general opinion, this country need not fear an oil shortage in the near future. At their meeting in New York institute members were told that there is sufficient oil for all normal, peacetime needs for at least 1000 years and possibly for twice that length of time.

Some speakers went so far as to give specific dates, predicting that the world would run out of oil in the year 2875 A.D., while an institute sub-committee declared that, after "a thorough study of the subject" it was inclined to believe that the world can count on plenty of oil until 3300 A.D.

W. A. Kemp, chairman of the institute's sub-committee on oil supply, boosted the period during which we can count on plenty of oil by another 1000 years, declaring that enough oil to meet all demands during that span of time can be produced from coal reserves alone.

An interesting analogy concerning oil already produced was offered by W. A. Matheson, chairman of the institute's postwar committee, who reduced the oil already used up to cubic dimensions, pointing out that so far we have used up less than a cubic mile of crude oil, and that oil in proved world reserves was estimated at about four cubic miles —or about three times the amount already produced.

Despite the lack of the old btu's, institute members must have been considerably warmed up with the prospects pictured by Matheson who said that he was in accord with the figures quoted recently before the AIME in New York City by Wallace E. Pratt who predicted a world-wide ultimate oil recovery of 700,000,000,000 — or an additional 23 cubic miles of oil still to be discovered and produced.

Asks Naval Board for Shale Development

REPRESENTATIVE VINSON of Georgia has introduced a bill in the House of Representatives providing for establishment of a naval Oil-Shale Development Board. The bill was referred to the Committee on Naval Affairs.

Under provisions of the measure there would be created a Naval Oil-Shale Development Board consisting of the Secretary of the Navy, the Secretary of War, and the Secretary of the Interior.

The board would be authorized, directly or through contract, to construct, maintain, and operate a plant with necessary facilities and accessories, for production, purification, and storage of oil, for naval use, from shale in the naval oil-shale reserves.

The GOP Looks At Future Taxation

THE 25-man committee named by Republican Leader Joe Martin to shape and smooth tax planks in the GOP campaign platform may have much to do with tax plans of the nation for some years to come. Political dopesters think that there is better than an even chance that Republicans will control the House after the election in November. For this reason Republican opinion about future taxation is most important because it is the House which must originate all revenue measures.

The committee, it is understood, will emphasize the effects of taxation on business, concentrating on two phases: (1) Maximum expansion of production to increase employment and (2) release of restraints on "risk" capital to make private instead of public money available to industry. Congressman Martin terms the present federal tax system "hopeless" and calls for a "return to sound tax principles" characterized by his two emphasized phases.

Excessive taxation as Martin reminds us is a brake on a nation's economy. Too, taxation is for revenue only whereas there have been instances in the immediate past where sometimes Americans have become convinced and not without reason that sometimes it was used for punitive or other non-revenue purposes.

Much constructive work needs to be done on federal taxation. It does not take a member of the GOP to affirm that statement.

A Layman's View of Middle East Pipe Line

BECAUSE the public might think that only oil men are opposed to the United States government constructing and operating an oil pipe line in Saudi Arabia, or any other place in the world for that matter, the views expressed by an observer who is not an oil man at a Town Hall meeting held in Tulsa recently are of interest.

Henry J. Taylor, foreign correspondent for Scripps-Howard newspapers, branded the Saudi Arabia pipe-line project as "the great Middle East boondoggle" and declared the Petroleum Reserve Corporation cannot justify it as a war operation since the reserves which

the pipe line plans to tap "are 14,000 miles from home."

Taylor, who has just returned from making a study of the project for his newspapers, said PRC also plans to build a refinery, possibly in Egypt, and to enlarge the present refinery at Haifa which is now operating at 65 percent capacity. To enlarge this plant would cost another $150,000,000, thus putting the United States into the oil business to the tune of $300,000,000.

The newspaper man indicated how this would result in possible future European embroilments which could lead to another war because the United States government would be forced to enter into oil-marketing agreements with Russia, Great Britain and other nations, and that at best, such agreements would in reality amount to monopoly which the American public has consistently opposed here and abroad.

"Eminent geologists say there are still vast oil reserves to be found in the Western Hemisphere from Alaska to South America, so why should we have to go clear to the Middle East for such reserves?" Taylor asked.

Oil from Middle East reserves must eventually be marketed in Europe, he reminded, and therefore this country will not greatly benefit from the development of the reserves while the taxpayer would foot the bills for cheaper oil for European nationals who will probably use this advantage in competition against American products.

A Better Mousetrap

A BRILLIANT man with a brilliant idea stole the show at the annual meeting of the American Association of Petroleum Geologists, last week in Dallas. The man is Dr. Paul P. Krynine, of Pennsylvania State College; and the idea is an obviously logical and practical scheme for solving the current will-'o-the-wisp of the petroleum industry — how to find stratigraphic trap oil pools. Dr. Krynine prefers to call them "petrographic traps," and considering his sudden preeminence in his profession he is entitled to call them whatever he wishes.

Petroleum geologists should be grateful to Dr. Krynine for giving them all the information they need to start an organized, scientific campaign to bridge the gap between fundamental theory and practical application. Working alone, for the rest of his life, he could no doubt work out the details of establishing the criteria that fix the location of petrographic traps; but with adequate help and the cooperation of all adequately trained geologists the job could be done in a matter of months. It is a challenge to the profession. Here appears to be the key to one of nature's great mysteries. How long will it take to put it to effective use?

Challenge on Paper

★ AVOID USELESS WRAPPINGS! ★ ACCEPT SIMPLER PACKAGING! ★
PAPER
PACKS A WAR
PUNCH!
FIGHT WASTE!
★ SHARE THE PRINTED WORD! ★ MAKE EACH PIECE STRETCH! ★

THE shortage of paper is one of the most critical and serious problems facing the American people in their war effort. Unfortunately, this is not generally recognized, no doubt due to the lack of appreciation of the various essential wartime duties that paper performs.

Approximately 500,000 tons of used or "waste" paper is being collected in the United States each month, but there is need for 700,000 tons.

Because paper salvage in industries has about reached its peak, the only solution to the problem is recouping the paper destroyed in the home. This supply, usually thrown in the trash, burned or tossed to the winds, is lost forever. While individually the quantity thus wasted seems small, it constitutes a large volume for the nation. To replenish fast-dwindling stocks, every discarded paper bag, old magazine, newspaper, wrapping, carton and cardboard box must be saved, and sent to war.

Systematic collection is necessary to put this paper into useful channels. There are a few suggestions:

1. Workers in large office buildings and plants could take yesterday's newspaper, last month's magazines and other papers to the office or plant, and deposit them in the waste basket. This would get it into useful salvage channels, because most large office buildings and plants turn their paper over to salvage paper companies.

2. Salvage paper receptacles could be set up at schools, grocery stores, filling stations, churches and theatres. Housewives could pack empty grocery bags with papers and deposit them in such convenient receptacles.

It is customary to think of paper use in connection with newspapers, magazines and trade journals, which serve the important function of giving America news and information. However, paper serves many other essential tasks in global war.

More than 700,000 different items must be shipped to oversea battlefronts, and most of them require paper for wrapping, as a protection against the elements. For instance:

One hundred pounds of newspapers will make 200 blood plasma flasks or containers.

Each unit of shells must be packed in cardboard containers, which can be made from salvage paper.

A 250-pound bomb is wrapped in 5 pounds of salvage paper, a 500-pound bomb in 6 pounds of paper, and a 1000-pound bomb in 9 pounds of paper.

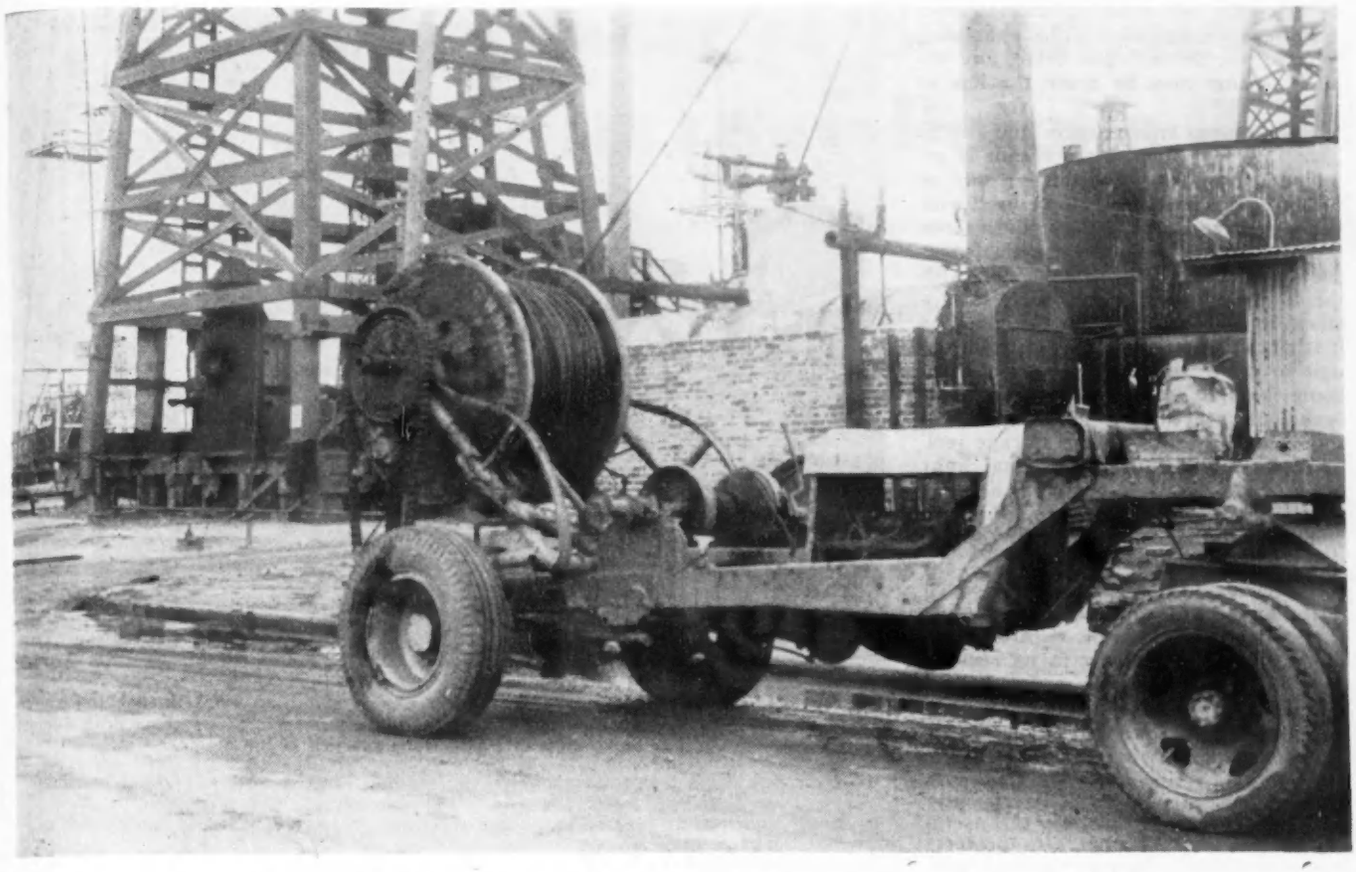
Food, shoes, uniforms, medicine and thousands upon thousands of other items require paper wrappings that can be made from salvage paper.

About the only way of meeting these needs is for each American to do his level best. Don't wait for the other fellow or some group to ask you to set up a receptacle. Do it yourself TODAY. And don't wait for someone to request that you, an individual, bring your waste paper from home to such receptacle or to your office. Be a REAL American by answering promptly this challenging appeal!

Military Qualifying Many for Better Jobs

PROVIDING good jobs which offer advancement to returning employes who have grown in experience and judgment as a result of serving in fighting forces will be one of American industry's main post-war duties. The office boy and routine clerk who went away to war and became a major, is not going to be an office boy again when he comes home.

Finding jobs for returning service men commensurate with the responsibility they have shown in their military assignments is an obligation of employers. Companies would be foolish not to capitalize on the development of ability shown by many former workers, asserts R. W. Gallagher, president of Standard Oil Company (New Jersey). He mentioned tank wagon drivers who are now exercising the responsibility of majors, a fuel oil supervisor who is now a lieutenant colonel in the Army Air Forces, an office boy who became a pilot of a Fying Fortress and is a captain. These and many others who left minor jobs will come back with enormously broader experience, capable of filling more important positions.



Semi-trailer mounting enables this self-contained wire-line reeler to be handled at road speed between jobs, while provision of separate engine relieves trailer power unit of continued operation under relatively light loads encountered while handling even heavy drilling lines.

Reeling Unit Extends Life of Wire Lines

Semi-trailer power driven unit handles full reel with minimum of labor, and enables spooling and unreeling to be done without exposing line to drag across the ground. Kinks and overlays eliminated.

HANDLING the wire line between jobs is as important to its extended life as is the care bestowed upon it during its working life. Many lines are damaged through careless handling, while as many or perhaps more are damaged through improper handling while running the line to the job or reeling it for transfer or storage.

One company, operating a number of rigs, gives its lines the best possible care in handling an ingenious semi-trailer wire-line spooler, independently powered, which requires but one man to operate, and which has ample power to permit controlled tension winding or feed off of the line.

The frame of this unit utilizes the rear half of a discarded heavy-duty truck, the front section of the frame being cut off, given a high lift, and shaped to fit over the king-pin section of the trailer unit intended to provide motive power for transferring the unit through company property. The rear axle is retained, the dual wheels being required to support the anticipated weight of reeling unit and heavy line, while the brake system provides necessary control on grades.

On the foundation provided by the reconstructed truck frame is located the power unit, consisting of the engine and rear axle from a light truck, the engine being set up between the side frame members, and driving the rear axle through a shortened, conventional propellor shaft with the usual universal-joint complement retained to insure required flexibility. In place of the former wheels, sprockets are fitted, to run on the bearings which formerly served for the drive wheels of the truck. By arranging the drive through the differential so as to allow either end of the axle to be driven as desired, one sprocket may be used to power the reel, while the other end serves to actuate the reel-lifting device.

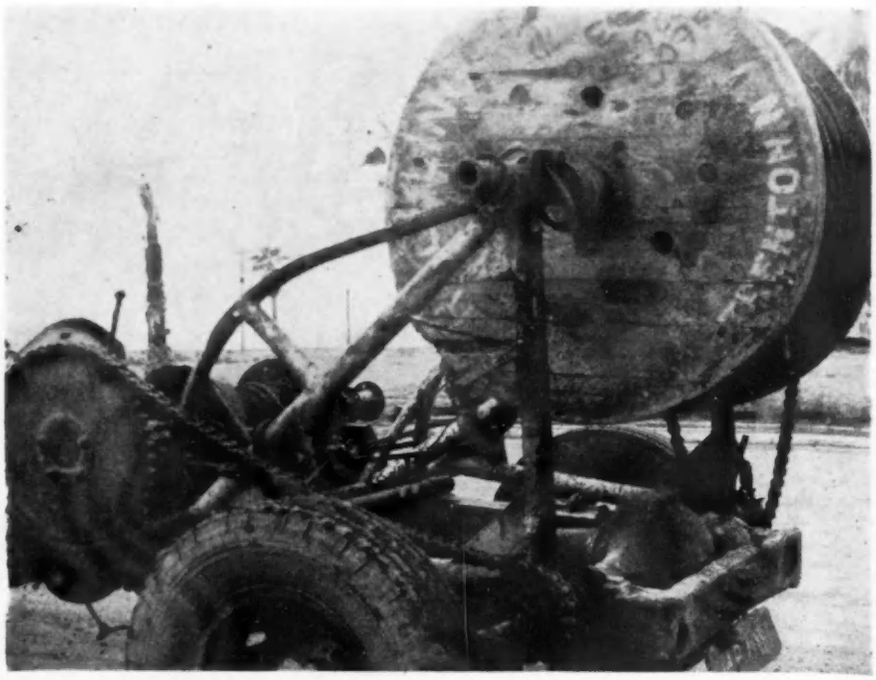
The reel is carried in a pair of notched supports, one at either end of the axle unit, and carried on the bearings at this point. This support is in the form of a quadrant with stops, the device being so made that it may be rotated toward the rear of the reeler, and the notches brought to the desired level to permit a reel to be rolled between the arms, and the drive axle on which it runs retained in the Y-slots with the locking pins. Then, through the application of power through the elevating device, the reel is brought up to the operating or carrying position, where it is held high enough over the equipment to insure the required clearance, and also to permit accurate visual check of the line and the manner in which it is running.

When the reel elevator is at the desired point in its swing, it is held by the retainer device, and power shifted

to drive the reel-rotating chain. Power may be applied to the reel for controlled winding or, through the drive, any desired tension may be given the line as it feeds off.

The original transmission unit of the light or superimposed truck unit is retained in the setup, permitting any of the three original speeds to be used with the reel drive, enabling light lines to be reeled in fast, while the heavier wire, such as drilling lines, is taken up with the low gear when it is desired that a visual inspection of the line be made as it is run. The low gear also permits the unit to apply sufficient power to overcome the drag set up by the drawworks brake or other unit to insure even spooling of the line on the storage reel. The clutch pedal of the original light truck drive is replaced with a lever which may be extended to whatever point is found most suitable for operation when spooling line.

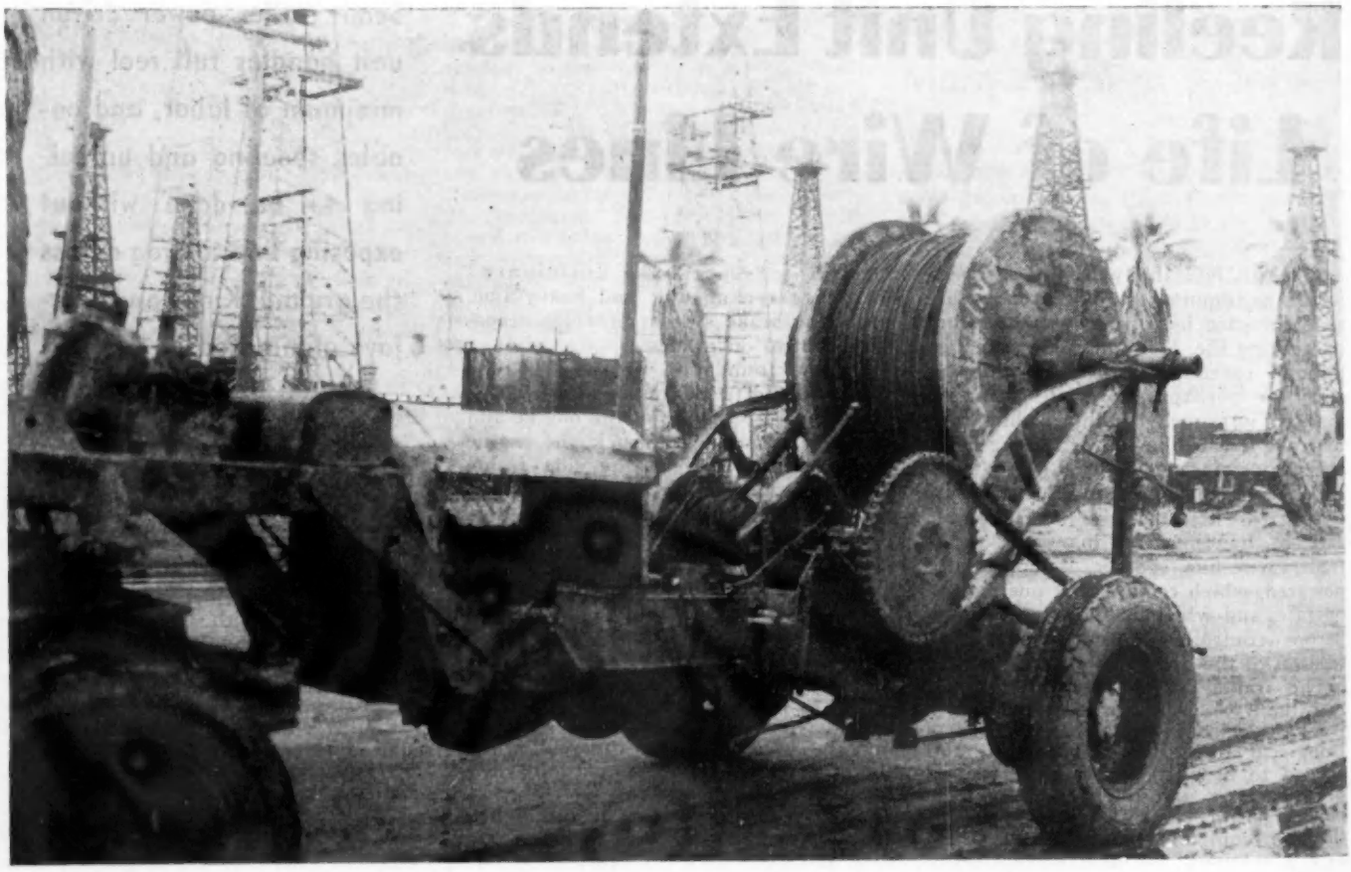
By means of the winch, the loaded reel may be unloaded at the new job, or may serve as feed-off control when running the line directly to its reeving with the rig blocks. It may also be lowered under control to storage dock, warehouse floor or onto a truck for transportation elsewhere, as desired. The controlled lowering, as compared with the roll-and-drop method so frequently seen, not only adds much to the useful life of the line reel, but also protects it against possible damage through accidentally striking some object while not under control, as well as removing the cause of crimping or cramping due to one side of the reel being caved in upon the wire.



Power take-off side of superimposed unit, showing method of driving winch through jaw clutch on end of axle stub. Idler sprocket carried on steel frame member prevents chain drag against wheel or brake drum of transportation section of the device.

☆ ☆ ☆ ☆

Control side of wire line reeling device, showing original gear shift lever and modified clutch control to permit all operation to be under control while action of line or reel is in full view. Idler sprocket for winch drive shows in this view.



Average Number of Geophysical Parties Shows Increase Despite Draft

Review of 1943 shows 55 percent gain over previous year in spite of war drain; progress in exploration said possible with better integration of component parts of over-all prospecting activity

By E. A. ECKHARDT, Vice President,
Gulf Research & Development Company

THE geophysical prospecting arm of the oil industry entered the year 1943 confronted with increasing demand for its services and a steady decrease in the manpower available to it. As against an average of 226 seismograph parties in 1942, the operators in 1943 managed to squeeze out an average of 255, an increase of about 12.6 percent. While this is considerably short of the goal of government and of the industry, it is a miracle that any increase at all was achieved and must be regarded as a creditable showing. During the first half of 1943 there was an average of approximately 248 seismograph parties operating in the United States. During the second half the average was 263. The increase during the second half was, therefore, greater than during the first. The peak was reached in August, when a total of 270 parties was reported.

In measuring the volume of effort merely by the number of parties operating, one may have a fair measure of the dollars being expended for such work. To consider this number as a measure of accomplishment as well is quite another matter. Accomplishment is here used to mean doing well the task assigned. This does not include the success which may be experienced in finding structures or oil fields. This success depends on many factors over which the geophysical operator generally has little, if any, control. The only proper measure of the efficiency of a geophysical party is the effectiveness with which it performs those things over which it has any control. So measured, the performance of geophysical parties during 1943 was unquestionably below par—how far below par we have no good way of knowing.

The manpower problem of geophys-

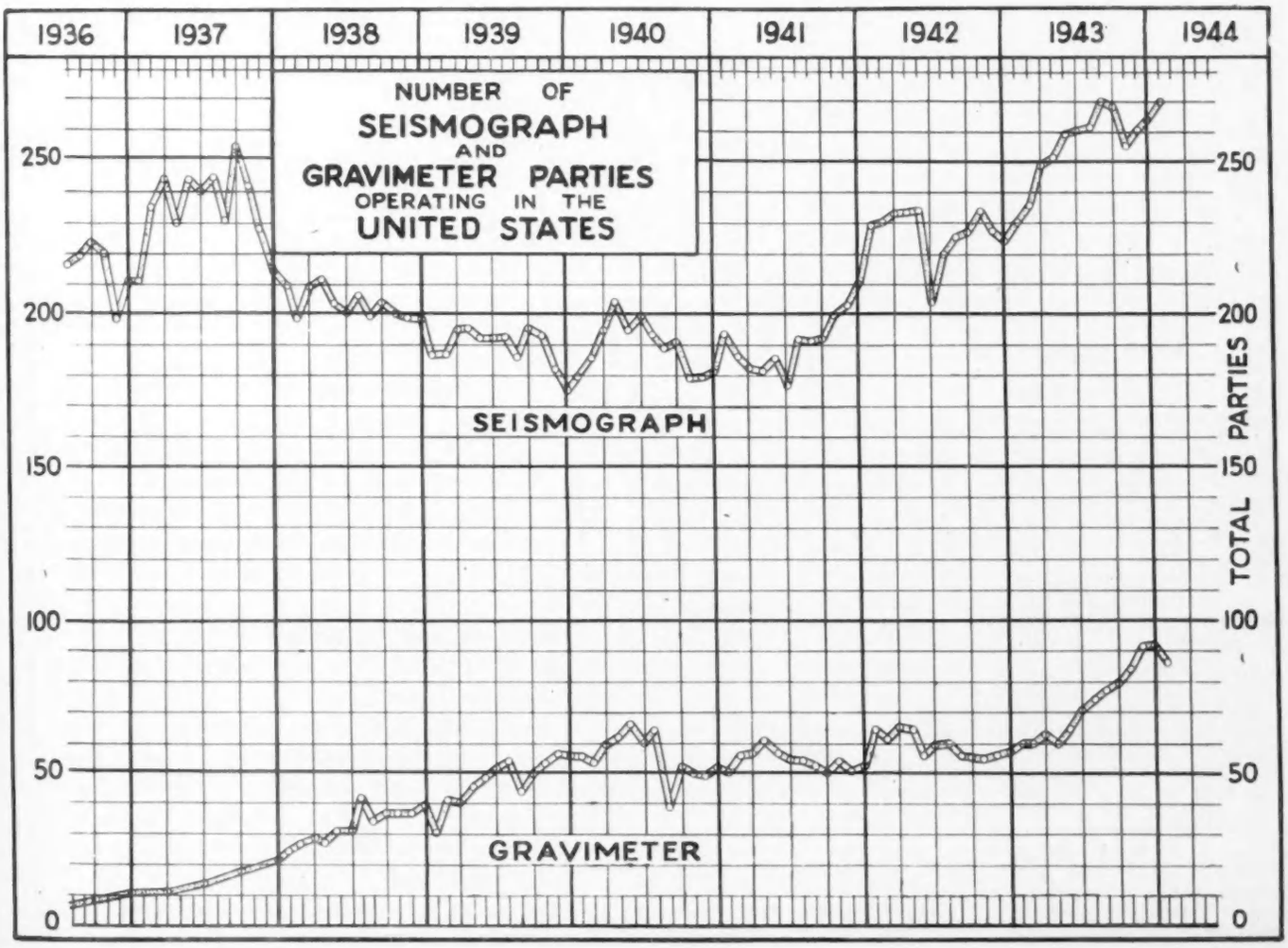


FIGURE 1

ical operators involves aspects which are met in few other lines of business activity. The work shifts from place to place and the workers, of necessity, lead a migratory existence. In these days when a much larger part of our population is on a transient basis than ever before, the problem of obtaining housing facilities for the men and their families is an exasperating one which is seldom amenable to even a reasonably satisfactory solution. This alone serves to limit sharply the reservoir of men from which replacements can be drawn. Older men generally prefer to accept jobs in fixed localities and war industries offer such opportunities to them. And it is from the older groups that replacements of a more permanent sort need to come. The other alternative is to employ men of pre-draft age as replacements. Geophysical parties now include these in appreciable numbers, but they are generally without previous experience in doing organized work and to a considerable extent immature and irresponsible.

Effect of Draft

For entirely logical reasons geophysical field parties have heretofore been made up largely of able-bodied young men and by now most of these have been yielded to the armed services. The recognition by Selective Service of critical occupations has assisted greatly in the retention of highly experienced and highly trained men, but the effect of the draft on their skilled and unskilled labor has been devastating. Since Pearl Harbor some organizations are known to have lost half their personnel to the armed services and more than that through resignations. Such a turnover in a business which depends on teamwork of its personnel to an unusual degree is demoralizing.

Depending on the nature of their work, geophysical field parties may be made up of three or four to as many as 40 to 50 men. The average number lies somewhere between 12 and 20. Such a party has a definite job to do, and each man has to do his part at the right time and place in order that the operation as a whole may prosper. In its organization and division of duties a field party is not unlike a football team and the ball carrier gets nowhere if his lineman and blockers are not fully familiar with their duties and well trained in performing them. Taking a man out of such an organization reflects back on the performance of the entire group. The loss is more than that of one man.

The nature of a geophysical field operation permits the use of women to only a limited extent. However, in the headquarters organizations of operators a substantial number of women have replaced men. Employment of women has probably gone as far as is feasible.

Loss of manpower has prevented a much-needed and desired growth in the volume of operations. It is true that in spite of record production the reserves appear to have increased from year to year, although at a nominal rate in the last year or two. An analysis shows, however, that the greatest contribution to new reserves has come from increases in the total available from earlier discoveries and that actual new discoveries on which our future reserves must ultimately depend have dwindled from year to year in the face of increased exploration efforts. It is obvious that if the oil industry in the United States is not to become heavily dependent on foreign sources for its crude, almost immediately, the discovery rate in the United States must be stepped up, and substantially.

The oil industry differs from most others as regards the timetable for the materials it furnishes for the war. It is logical that most items manufactured for our fighting services will see peak production considerably in advance of the climax of the war. The peak need of petroleum products, however, will more nearly coincide with the climax and, therefore, the irreducible manpower needs of the oil industry will nearly parallel that of the fighting services themselves. Personnel needs of the industry will have to be considered from this viewpoint if its record of delivering the goods in adequate quantity and on time is not to be spoiled.

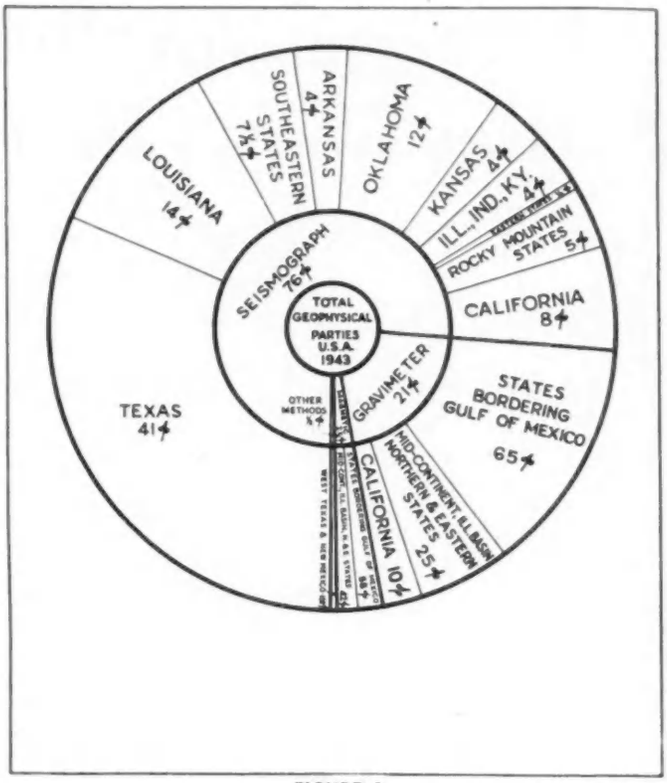


FIGURE 2

Variation in the number of seismograph and gravimeter parties from month to month is shown in Fig. 1, which covers a period of a little over seven years. Some of the month-to-month fluctuations may not be real and be the result of temporary local breakdown in the reporting mechanism, but on the whole the chart is believed to reflect the volume of activity in the United States. It is evident that the number of field paries during 1943 was at a new record high level, for both the seismograph and the gravimeter.

In the circular chart, Fig. 2, is shown the distribution of geophysical activity by types and by geographic areas. During 1943 the major types of activity, namely seismograph and gravimeter, were strengthened somewhat at the expense of the minor types, the gravimeter work growing more rapidly than the seismograph. Possibly this should not be interpreted as a preference for the gravimeter. The greater ease with which a gravimeter party can be manned and equipped undoubtedly was a factor in the growth of this kind of activity.

In geographic distribution the trend has been one of concentration of seismograph activity in areas from which most of our current production comes, and indicates a preoccupation with immediate as against more remote future production. Seismograph work in the southeastern states was only a little over half of what it was in 1942. It was equally sharply reduced in the Illinois Basin area. It was up slightly in Louisiana and Oklahoma, the same in Kansas and down slightly in California. Most striking, percentagewise, was the increase in the Rocky Mountain states, in which activity jumped to about 5 percent of the total. Gravimeter activity has moved away from states bordering the Gulf of Mexico, although this remains nevertheless the area of its major use. This activity has increased in chiefly the northern states and in California. At the close of the year it stood at 91 parties, or approximately 80 percent above the Pearl Harbor level.

Better Integration Suggested

The industry is acutely conscious of the fact that its prospecting efforts are not being rewarded by discoveries as generously as was the case some years back and much thought is being given as to how this alarming situation can be improved. As is usually the case when problems are perplexing, opinions are divided on where the improvement needed is to be found. Since geophysical techniques have borne the major burden in recent years, the pressure on them is most severe. It was stated a year ago (The Oil Weekly, April 5, 1943) that there were no signs to indicate that anything new and revolutionary is visible on the horizon. The passing of another year has made no appreciable change in this picture. It is not unlikely that improved equipment will come out of the war with which we may measure with greater facility the same quantities which are being measured now. But though the instruments may delight us, they will not affect the discovery rate to an important degree.

However, the situation is far from being as hopeless as this might indicate. Much progress should be available from a better integration of the component parts of the over-all prospecting activity. Such an integration could have important results in stepping up the discovery rate. It seems to be the most readily available means for producing such an important and much desired result.

Flexibility to Meet National Needs

What's Behind the Trade Mark?
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Historical Series - - - No. 13

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Classification of Exploratory Drilling and Results in 1943

By FREDERIC H. LAHEE
Sun Oil Company

Digest of address before American Association of Petroleum Geologist's annual meeting, Dallas, Texas, March 21-23, 1944

Deeper wells noted during year; wildcats located on basis of technical advice far more successful than others; 17 percent of all holes and 18.1 percent of footage in producer class

IN THE principal oil-producing states of the United States (as shown in Table 1) a total of 15,122,364 feet was drilled in 3843 exploratory holes during 1943, divided as follows:

655 producers ..... 2,741,303 feet
3188 dry holes .....12,381,061 feet

This means that 17.0 percent of the holes drilled and 18.1 percent of the footage drilled, was successful in 1943. One producer foot was drilled for every 4.51 feet of dry hole. One successful well was drilled for every 4.88 dry holes. The average depth of hole was 3935 feet.

Southern States

In the southern states district in 1943 a total of 8,227,468 feet was drilled in 1656 holes, divided as follows:

Feet
287 producers 1,546,956
1369 dry holes.....6,680,512

In this area then 17.3 percent of the holes drilled and 18.8 percent of the footage drilled was successful. One producer foot was drilled for every 4.32 feet of dry hole. One successful well was drilled for every 4.73 feet of dry hole. The average depth of hole was 4968 feet.

Selection of the location for a wildcat well may be based on geology (surface geology, subsurface geology, trend along known structural or stratigraphic conditions, local or regional, or shallow exploratory drilling); or it may be based on geophysics (exploration by seismograph, torsion balance, gravity meter, magnetometer, et cetera); or it may be based on some non-technical suggestion or requirement, such as "creekology," "hunch," "doodlebug," promotion, lease obligation, reported showing of oil or gas in holes previously drilled, et cetera. In many cases the reason for choosing cannot be ascertained.

Technical Success

Again, exploratory statistics (Table 2) show that wildcats located on the

TABLE 1

Number of Oil Wells, Gas Wells, and Dry Holes Drilled as Exploratory Tests in 1943

STATES	Oil Producers		Gas Producers*		Dry		Total No. Holes	Total Footage Drilled	Average Depth of Hole in Feet†
	No. of Holes	Footage Drilled	No. of Holes	Footage Drilled	No. of Holes	Footage Drilled			
Alabama	....	.....	....	.....	9	35,777	9	35,777	....
Arizona	....	.....	....	.....	1	3,850	1	3,850	....
Arkansas	5	27,982	....	.....	65	306,067	70	334,049	4,772
California	44	197,965	13	67,978	194	798,145	251	1,064,088	4,239
Colorado	....	.....	1	8,560	10	43,750	11	52,310	....
Florida	1	11,630	....	.....	9	23,494	10	35,124	....
Georgia	....	.....	....	.....	3	10,037	3	10,037	....
Illinois	107	274,255	1	1,121	400	928,440	508	1,203,816	2,369
Indiana	6	12,132	....	.....	74	134,427	80	146,559	1,832
Iowa	....	.....	....	.....	2	3,799	2	3,799	....
Kansas	56	198,266	1	1,266	379	1,416,605	436	1,616,137	3,707
Kentucky (W)	25	42,440	1	790	127	273,577	153	316,807	2,071
Louisiana	30	180,245	24	210,916	154	1,068,662	208	1,459,823	7,018
Michigan	24	60,223	8	9,902	236	594,380	268	664,505	2,479
Mississippi	5	40,160	....	.....	51	339,125	56	379,285	6,773
Missouri	....	.....	....	.....	7	12,546	7	12,546	....
Montana	1	6,040	2	7,805	26	67,136	29	80,981	2,792
Nebraska	....	.....	....	.....	29	84,865	29	84,865	2,926
New Mexico	7	25,086	1	9,592	34	117,334	42	152,012	3,619
North Dakota	....	.....	....	.....	1	5,359	1	5,359	....
Ohio (NW)	1	1,479	2	664	2	2,000	5	4,143	....
Oklahoma	48	211,169	15	53,604	293	1,168,207	356	1,432,980	4,025
South Dakota	....	.....	....	.....	1	8,000	1	8,000	....
Tennessee	....	.....	3	2,990	4	3,814	7	6,804	....
Texas	163	752,053	51	289,292	1,047	4,793,784	1,261	5,835,129	4,627
West Virginia	1	2,160	3	7,525	14	72,708	18	82,393	....
Wyoming	5	26,013	....	.....	16	65,173	21	91,186	....
Total	529	2,069,298	126	672,005	3,188	12,381,061	3,843	15,122,364	3,935

* Gas-and-distillate (condensate) wells, of which there were 37 completed in 1943, are included in this column.
† Averages have been recorded here only for states where more than 25 exploratory holes were drilled in 1943.

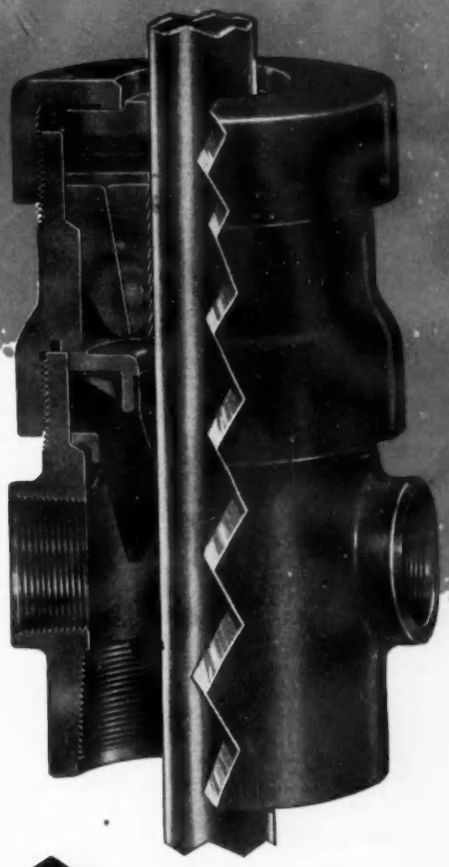
TABLE 2

Basis for Locating Exploratory Holes Drilled in 1943

STATE	Geology		Geophysics*		Geology and Geophysics		Sundry Non-Technical		Unknown		Totals		Grand Total
	Prod.	Dry	Prod.	Dry	Prod.	Dry	Prod.	Dry	Prod.	Dry	Prod.	Dry	
Alabama	.....	3	.....	2	.....	2	.....	1	.....	1	.....	9	9
Arizona	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Arkansas	2	22	1	24	2	14	.....	1	.....	4	5	65	70
California	39	132	8	24	8	11	1	13	1	14	57	194	251
Colorado	1	5	.....	1	.....	.....	.....	3	.....	1	1	10	11
Florida	.....	.....	.....	2	1	.....	.....	7	.....	.....	1	9	10
Georgia	.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	3	3
Illinois	86	280	16	54	6	32	.....	34	.....	.....	108	400	508
Indiana	2	33	.....	2	.....	.....	.....	6	4	33	6	74	80
Iowa	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	2
Kansas	40	150	12	59	.....	9	5	161	.....	.....	57	379	436
Kentucky (W)	18	25	1	9	5	34	2	59	.....	.....	26	127	153
Louisiana	22	70	19	44	13	37	.....	2	.....	1	54	154	208
Michigan	32	235	.....	.....	.....	1	.....	.....	.....	.....	32	236	268
Mississippi	1	19	1	15	3	11	.....	3	.....	3	5	51	56
Missouri	.....	2	.....	.....	.....	.....	.....	4	.....	1	.....	7	7
Montana	3	22	.....	.....	.....	.....	.....	2	.....	2	3	26	29
Nebraska	.....	.....	.....	15	.....	4	.....	3	.....	7	.....	29	29
New Mexico	4	22	3	6	.....	4	1	2	.....	.....	8	34	42
North Dakota	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1
Ohio (NW)	1	1	2	.....	.....	.....	.....	1	.....	.....	3	2	5
Oklahoma	23	129	35	89	.....	6	5	69	.....	.....	63	293	356
South Dakota	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Tennessee	1	.....	.....	.....	.....	.....	2	4	.....	.....	3	4	7
Texas	128	655	51	193	27	75	7	120	1	4	214	1047	1261
West Virginia	4	10	.....	4	.....	.....	.....	.....	.....	.....	4	14	18
Wyoming	4	11	.....	1	1	2	.....	1	.....	1	5	16	21
Total	411	1828	†149	†545	‡66	‡243	23	500	6	72	655	3188	3843

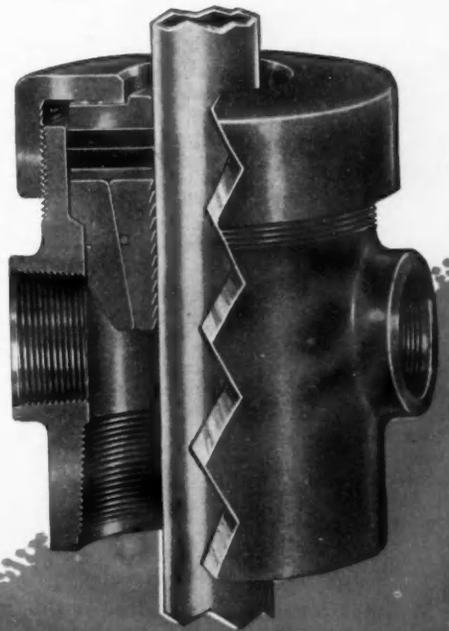
* Including geochemistry. † Of these holes 145 producers (123 wildcats, 22 outposts) and 508 dry holes (473 wildcats, 34 outposts, 1 deeper-pool test) were located by seismograph. ‡ Of these holes, 64 producers (43 wildcats, 17 outposts, and 4 deeper-pool tests), and 230 dry holes (202 wildcats, 25 outposts, and 3 deeper-pool tests) were located by seismograph and geology.

HERE'S A TIP ON TUBING HEAD ECONOMY



Type SR, Stripper type.

Type R, regular type when stripper is removed.



Many operators are effecting definite economies without any sacrifice of safety by removing expensive high pressure Christmas trees from wells where pressure has fallen off and replacing them with one of the strong, versatile Larkin Tubing Heads illustrated here. The Christmas trees thus removed can then be used in newer, higher pressure areas.

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TABLE 3

Distribution of Exploratory Wells of 1943 by Classes and Results of Drilling

			Number	Footage
Wildcats	Producers	Oil	302	1,357,809
		Gas	65	273,546
		Gas-distillate	29	273,959
	Total		396	1,905,314
	Dry		2618	10,514,401
Outposts	Producers	Oil	173	648,998
		Gas	13	60,323
		Gas-distillate	5	34,118
	Total		191	743,439
	Dry		490	1,770,045
Deeper-Pool Tests	Producers	Oil	54	62,491
		Gas	11	25,903
		Gas-distillate	3	4,156
	Total		68	92,550
	Dry		80	96,615
Total Producers			655	2,741,303
Total Dry Holes			3188	12,381,061

basis of technical advice were far more successful than those drilled without such advice. There were 626 exploratory holes drilled on technical advice (geology and/or geophysics) that were successful in finding oil or gas, and 2616 were dry; 23 holes located for non-technical reasons were producers and 500 were dry; 6 producers and 72 dry holes were located for reasons unknown. These figures show that 19.3 percent of the holes drilled on technical advice were producers as contrasted with 4.4 percent successful in the case of holes located without technical advice. Therefore, in 1943, locations based on technical recommendations were nearly 4.4 times as successful as those drilled without such advice.

Changes From 1942

Comparing last year's figure (see American Association of Petroleum Geologists Bulletin for June, 1943, and the THE OIL WEEKLY, April 5, 1943) with figures for 1943, the following conspicuous changes are noted:

1. There was a considerable increase in the exploratory effort in most parts of the country, but in Illinois, Indiana, and Nebraska there was a marked reduction both in number of exploratory holes drilled and in the total depth of these holes.

2. There was a decrease from 5013 feet to 4239 feet in the average depth of holes drilled in California. It is noteworthy that last year also California showed no increase in average depth of exploratory hole drilled.

3. On the other hand, deeper drilling is proved by marked increases in the average depth of exploratory holes from 3521 feet to 3707 feet in Kansas; from 1736 to 2071 feet in Western Kentucky; from 6809 feet to 7018 feet in Louisiana; from 5276 feet to 6773 feet in Mississippi; from 3154 feet to 3619 feet in New Mexico; and from 4309 to 4627 feet in Texas.

Drop in Discovery Rate

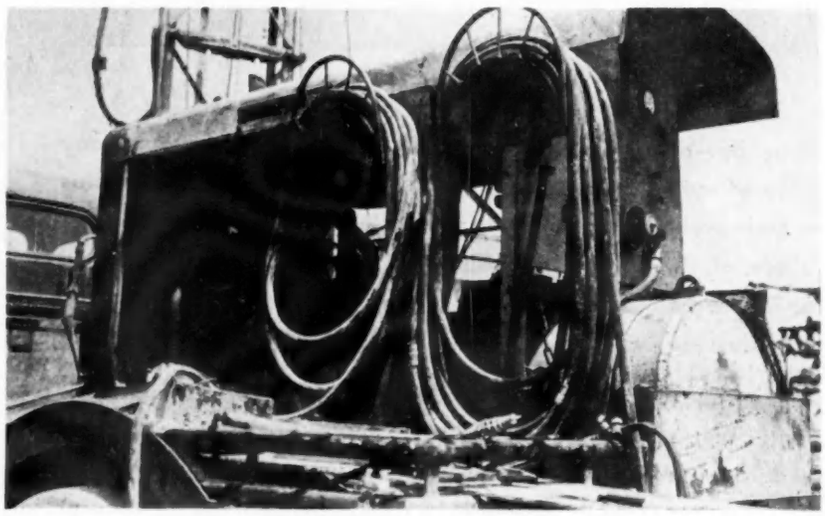
Statistics reveal a marked drop in the rate of discovery from 1937 to 1943 inclusive and this in spite of a steadily increasing footage drilled in exploratory holes and an increasing number of exploratory holes drilled each year. However, worthy of note is the fact that an increase in proved reserves newly discovered in 1943 resulted from the marked increase in exploratory drilling during that year. The effects of extending the newly discovered areas of 1943 should be observed especially in 1944 and 1945.

We are unable now separately to classify new-field wildcats and new-pool wildcats of 1943, but we can group these together and list the data for wildcats, outposts and deeper pool tests. Such a grouping shows that 3014 of the exploratory holes drilled in 1943 were wildcats, whereas 681 were outposts and 148 were deeper-pool tests. In other words 78.4 percent of all exploratory holes recorded in this paper for 1943 were of the wildcat class. How much variation there may be in this relation from year to year is impossible for us to say since we do not possess the data, but for convenience and probably without introducing too serious an error, we might assume that about 80 percent would be satisfactory. If this is fair, we may estimate that the number of wildcats drilled in 1942 under the same definition as that adopted in the present compilation was somewhere near 80 percent of 3212 or about 2570; which would mean an increase in exploratory drilling of the wildcat class from approximately 2570 in 1942 to 3014 in 1943.

Below PAW Figure

Whether we take the full number of exploratory holes (3843) drilled in 1943 or merely the wildcat group of 3014, both figures are far below PAW's urgent request for 4500 in 1943. There is no question that the exploratory effort must be still further intensified in 1944.

MAINTENANCE HINT



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Preventing Power Line Mishaps in Seismograph Shooting

By WHEELER O. HOLMES
of the Hercules Powder Company

Chance contact with nearby power lines is an ever-present electrical hazard to seismograph crews at the moment when the lengths of cap wires are projected from the shot hole. ***(Photo courtesy of The Explosives Engineer.)***

THE last 17 years have witnessed the successful commercial application of seismic prospecting to the problems of oil exploration and the growth of this industry to a position as an important consumer of industrial explosives.

In seismograph shooting, the sole purpose of explosives is to set up earth vibrations. This type of blasting differs materially from other blasting operations in its dependence on varied locations. Consequently, while the usual precautions to be observed in all blasting are applicable to geophysical work, some special problems also exist. One of the most serious of these is the frequently encountered necessity of shooting under or near power lines. Because of the dangers associated with shooting in proximity to transmission lines, the purpose of this paper is to help reduce the number of accidents that are caused under such circumstances.

Much seismograph drilling and shooting are done along the roads and highways most nearly coincident to the desired line of exploration because of the problems pertaining to crops, livestock, speed of operation, and the like. Many power lines—particularly since the advent of the Rural Electrification Administration—are thus encountered by seismic crews.

The procedure in the Southwest, where much geophysical prospecting is done, is to locate shot holes, usually between 3 and 4½ inches in diameter, spaced from 880 to 1320 feet apart along the line of exploration. These holes commonly run from 50 to 150 feet or more in depth; in many areas the average depth is 75 feet.

Often, in the course of such operations, power lines are encountered along a road. Under such circumstances, the holes are normally drilled on the opposite side as far away as conditions of fencing and terrain permit. However, on narrow, closely fenced, section-lined roads, this distance may not be over 50 feet, or on highways, not more than 100 feet.

Electric blasting caps are always used in seismic shooting. Thus, each hole, when shot, necessarily contains copper wires leading from the shooting truck and extending down to the cap in the charge, close to hole bottom. The holes must often be shot repeatedly; therefore, they are usually stemmed with water and much which enable the holes to clean themselves on each shot.

Explosion Projects Wires

While the cap or lead wires can be anchored at the collar of the hole, it is not possible to anchor satisfactorily the lengths of wires extending down the holes. When the shots are detonated, these wires are usually projected from the hole into the air for their full lengths, as shown in the accompanying photograph of a typical reflection shot. If the holes are as deep as, or deeper than, the direct distance from the hole collars to the power lines, a serious hazard exists to the men at the shooting truck, or sometimes even at the recording truck. This holds especially true if a wind is blowing from the hole toward the lines. Instances of severe electric shock—some with fatal consequences—have resulted from conditions which have permitted wires still connected to the trucks to be blown out of the holes into contact with power lines.

Numerous attempts have been made to catch and hold, or to deflect these wires, as they are blown from the holes. Devices, such as grids and deflectors placed over the holes before each shot, have not proved entirely reliable—especially when heavy charges are used. Some companies have minimized the hazard by ruling that no holes shall be drilled closer than 200 feet to power lines, but the disadvantages of this are apparent. All-in-all, none of the practices resorted to have been completely satisfactory.

It may be seen, of course, that the power-line hazard really depends on the relationships between the lengths of the wires extending down the holes and the distances from the collars of the holes to the lines, and that this problem would be abated if these relationships could be properly controlled.

Recently, an apparently successful approach to the problem was effected by the substitution of a patented detonating fuse for portions of the wire lengths extending down the holes. This detonating fuse is commonly employed in shooting deep well-drill holes. It consists of an explosive core of pentaerythritetetranitrate, more briefly known as PETN, contained within a flexible, waterproofed textile covering. Its diameter is about ¼ inch and it weighs approximately 15 pounds per 1000 feet of length. Tensile strength is about 113 pounds, and it is packed on compact spools of 500 and 1000 feet.

This fuse can be initiated by a No. 6 electric blasting cap, and will detonate throughout its entire length, thus acting as a powerful detonator for any dynamite with which it is in contact.

The fuse calls for the same care in handling as any other detonant, but is relatively insensitive to shock, friction, and flame; it is acceptable for express shipment. Both the textile covering and the PETN core itself are water resistant. Its rate of detonation is approximately 20,350 feet per second. Detonation completely disintegrates the fuse.

Trials to determine the suitability of the use of this fuse to diminish the hazards of seismic shooting near power lines were conducted by Hercules Powder Company representatives in cooperation with a Gulf Research and Development Company crew working out of Chickasha, Oklahoma, under the management of Ray DeGood.

At the time, this crew was shooting along section lines in 3½-inch holes averaging about 75 feet in depth. From 15 to 25 pounds of explosive were used for each shot. Caps with 60-foot wires were being used to detonate the charges. To reach hole bottom about 15 feet of splice wire was usually necessary. The shots were detonated by a blasting machine at the shooting truck, in accordance with common seismograph practice.

On the first trial of the fuse, a power

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line was assumed to be on the other side of the section-line road at a distance of about 40 to 50 feet from the hole. The hole was 75 feet deep, and 60 feet of fuse was substituted for this length of wires. The charge was made up in the usual manner except that the fuse was inserted in the charge (see sketch) instead of a cap, and the cartridge let down the hole by the fuse in lieu of cap wires. When the charge had been lowered down the hole almost the full length of the fuse, a simple knot was tied at the end of the fuse, and the cap wires at a point about 8 inches from the cap were tied around the fuse just below this knot. The cap, pointing downward, was then placed alongside the fuse and lashed firmly to it by friction tape. The charge was next lowered the remaining distance to hole bottom, the cap wires strongly anchored at the collar of the hole, connections made to the shooting truck in the usual way, and the shot fired.

This shot had every normal appearance, with no more than the usual surface noise and disturbance. The shot hole was undamaged. The wires in the hole were simply projected out for their length of 15 feet, and fell back on the ground undamaged except for the 8 inches where junction with the fuse was made. It was apparent that there could have been no contact with the imaginary nearby power line.

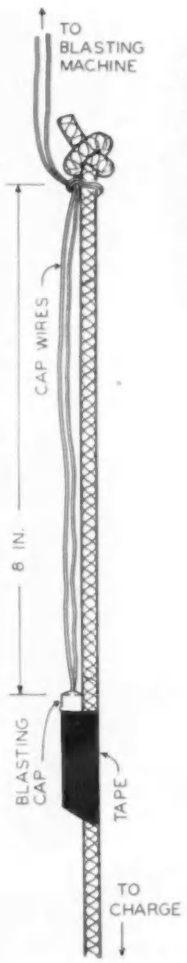
Because of the 60-foot length of fuse from the cap to the charge, a lag in the arrival times at the recording truck of .003 second, compared with those of the previous, normally made shots, was expected. This was based on the length of fuse used and its speed of approximately 20,350 feet per second. Within the limits of the accuracy of the instruments, this lag was exactly as anticipated.

Further trials were made which substantiated the results of the first so far as behavior of the cap wires and lag in arrival times were concerned. Following these, the method was put to actual use near power lines under wind conditions which ordinarily would have precluded shooting. Results were entirely satisfactory, and, based on experience to date, indications are that the fuse so used can successfully minimize or eliminate the special hazards of seismic shooting in the vicinity of power lines.

As a further test of the seismographic accuracy of this method of shooting, a recent field trial used 140-foot and 156-foot lengths of fuse in the hole. In both cases, perfect checks were obtained in computing the tardiness of reflection times. Thus, in so far as the recording is concerned, the fuse has proved completely reliable.

General Observations

While many modifications of the preceding examples of use may be made to fit various individual situations, some general observations can be made. The basic consideration must always be to shorten the length of the wires in the hole by substituting sufficient fuse so that the wires cannot make contact with nearby power lines when the hole is shot. The necessary amount of fuse substitution should depend on the relationship between hole depth and distance to the power lines existing in each situation. Beyond the amount actually necessary, a reasonable margin of safety to fit the individual circumstances should



After the charge has been let down the hole almost the full length of the fuse, the cap wires at a point about 8 inches from the cap are fastened around the fuse below a simple knot tied in the end of the fuse. The cap, pointing downward, is firmly lashed to fuse with friction tape.

(Drawing courtesy of The Explosives Engineer.)

be allowed in each case. Cost considerations suggest that lengths of fuse used do not much exceed this point although, except for cost, extra length should not be disadvantageous if proper allowance is made in figuring lag of arrival times.

Also, because the fuse is a powerful explosive, as a general rule it probably should not be brought any closer to the top of the hole than 10 or 15 feet unless absolutely necessary. To eliminate possible misfires, care must be taken when connections are made that the cap is lashed to the fuse firmly.

Some instances in certain areas were noticed where the up-hole geophone gave confused and inaccurate up-hole times. These generally occurred when the cap and fuse were close to the top of the hole, and were probably caused by inability of the up-hole phone to recover completely from the effects of air and ground waves from the cap and fuse explosion before arrival of the wave from the main explosion. This confusion was usually found to be satisfactorily reduced by placing the cap connection 15 to 20 feet or more below the ground level, and further reduced by moving the up-hole geophone back from the hole a few feet. While indications to date are that either or both the above methods can satisfactorily abate this problem when it occurs, in any event hole time for each hole could be determined by simply shooting a cap—or a cap connected to a charge so light that it would involve no high-line danger at hole bottom.

A suggested alternate method of using the fuse to eliminate power-line hazards consists of wrapping the full lengths of the cap wires around the fuse so as to produce disruption of the wires.

Under ordinary conditions of shooting—that is where shot-hole depths are less than 100 feet, charges range from 5 to 15 pounds per shot, and the use of loading devices is not required—the regular grade of fuse possesses sufficient tensile strength to preclude any probability of fuse breakage in the hole. Relatively deep holes do, however, introduce this liability, especially if heavy charges are being used.

Precautions Listed

The substitution of reinforced fuse is recommended for shooting holes exceeding 150 feet in depth. This precaution will be dictated for even shallower holes where charges of 20 pounds or over are being loaded. Higher tensile strength of the reinforced fuse will provide an adequate safety factor against breakage in the fuse under such circumstances.

Use of reinforced fuse is again advisable in areas of "tough" holes, where every charge has to be worked to bottom with loading devices. In this case, of course, the consideration is not tensile strength but danger of severance due to abrasive action of sharp obstacles along the walls of the hole. The reinforced grade of fuse provides extra protection against the constant rubbing which may result in cutting through the fuse.

Recourse must be had to loading devices in working charges past obstacles in holes which have rough or caving walls. The question as to the practicability of using the fuse in forced loading is one which cannot be fully answered at this time because of the absence of field criteria. It is believed, however, that a modified method of connecting the fuse to the charge will permit its use in conjunction with loading devices in holes of normal diameter and under ordinary conditions of handling.

There are several suggested methods of attaching the fuse to a dynamite column for use with loading devices. In one case, the fuse is simply tied along the side of the cartridge; in the other, the fuse is threaded through the cartridge. Both methods leave the end of the cartridge open for the loading device. By punching the holes for the fuse connection at least 4 inches from the end of the cartridge, assurance is provided that the fuse will not pull out if the cartridge end is softened up as a result of loading pressure or prolonged immersion under water.

Use of the fuse in cased holes involves special considerations, and is not advised. Particularly if the hole is filled with water, the effect will probably be to split the casings. At the present time, data are lacking to support any statement of experience in this regard, but because of the likelihood of damage to casings, especially in water-filled holes, seismograph crews are warned against trying to use the fuse in cased holes.

In view of experience gained so far, and because of its convenience in handling and storage, it seems that consideration might well be given by all seismograph operators to the possibility of carrying small stocks of the fuse as insurance against costly operating delays and possible power-line accidents.

LIFE OR DEATH MANEUVERS

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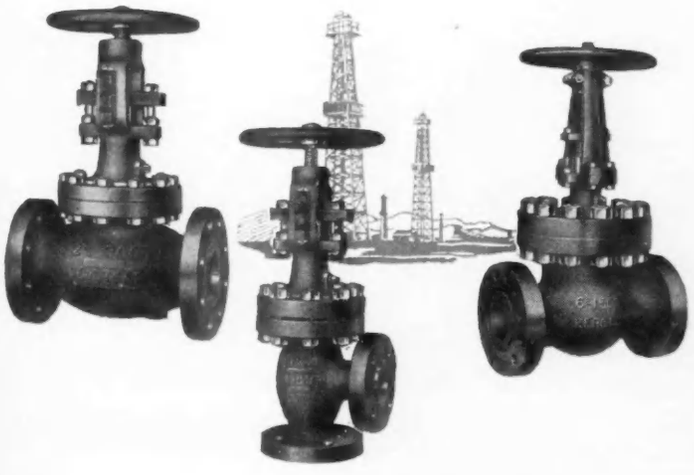

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KEROTEST

PRACTICAL OPERATING *Hints* FOR THE DRILLING RIG

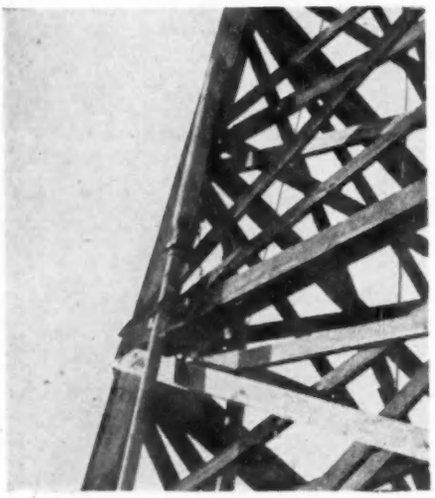
$5.00 will be paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, *Houston*

1. MUD FLOW

Elevated Pipe Snubber Cuts Pump Surges

TO REDUCE pump pulsations in the standpipe, as well as vibrations all along the line between the pumps and the kelly swivel, one operator installs a vertical surge chamber on the top of the standpipe.

An 8-foot length of 6-inch pipe was orange-peel-weld closed at the top, and fitted with a swage, nipple and hammer-type union at the lower end, the latter being screwed to the standpipe top. Welded into the side of the chamber, near the bottom, is a short goose-neck fitting to which the rotary hose is connected. A steel ring welded to the top of the chamber facilitates lifting the assembly with a light line strung over a crown sheave. Small quantities of gas and/or air breaking out of solution in the mud column rise to the top of the chamber where the charge acts as a cushion against the destructive pounding of the pump.



Mounting surge chamber at top of mud line riser affords maximum protection to the hose fittings.

2. SAFETY

Cathead Flange Guard Insures Line Spooling

A COMMON source of accidents around the drilling rig is an unguarded drawworks cathead. During a particularly rushing phase of the operation a loop of the catline may slip off and tangle between the reel and the drawworks. Should the line become fouled here, it is likely to result in injury to some workman or at least damage to some of the equipment.

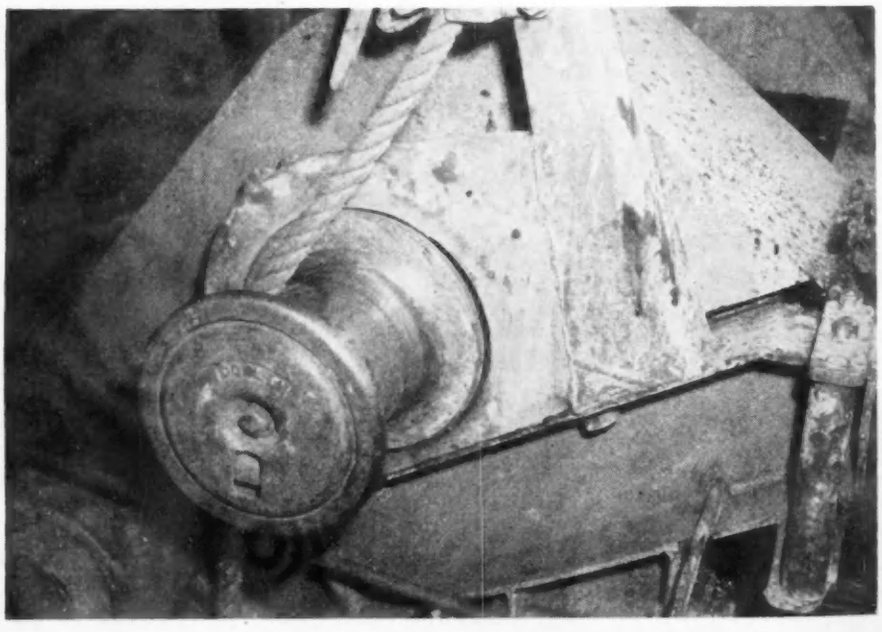
To eliminate this one source of accidents, one company welds a protective collar in place on the inside end of the reel. A hole only slightly larger than the cathead rim was torch-cut out of a sheet of ¼-inch steel. The plate was then welded in place to the drawworks frame members.

While most of the newer rigs now being sold contain a pre-fabricated shield designed to offer this type of protection, hundreds of the older-style units are not so equipped, and the simple guard shown here is a safeguard which may easily be built by the company welder.

3. DRAWWORKS

Brake Band Support Equalizes Pressure

SAND-LINE reel brake drums are subjected to considerable abuse and wear in even the normal course of drilling, so any device which may help to minimize unnecessary wear is worth some time and effort. Such a device built up by one drilling company, consists of a roller support which is mounted on the back and near the under side of the brake drum. An upright 10-inch length of pipe welded to the base member of the reel serves as a support for an upward-slanting, threaded arm which in turn holds a pair of rollers firmly



Formed to fit closely over cathead, and welded to bracket fitting against drawworks frame, this guard fends line from possible snarling on shaft and reduces hazard to operators.

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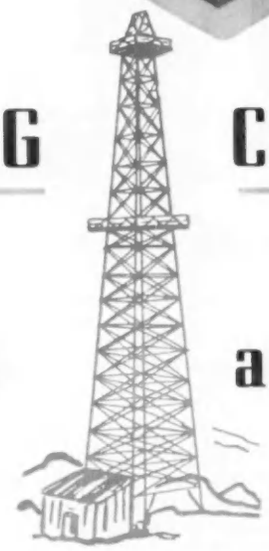

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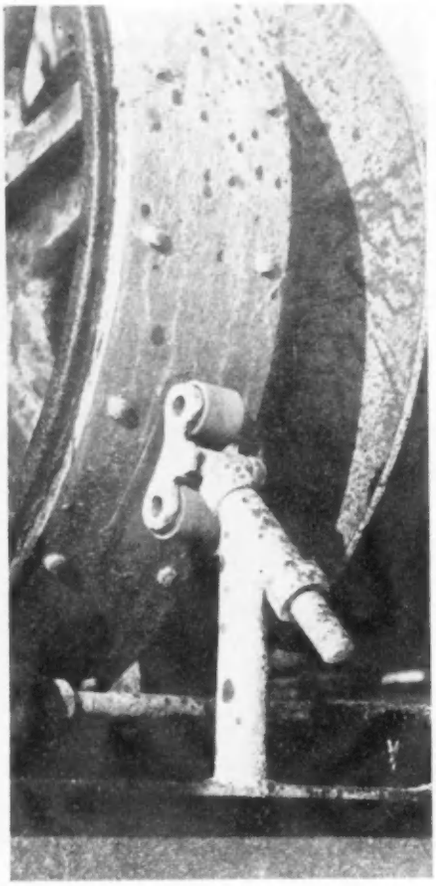


Rotary chain link, held against brake band by adjustable support prevents sagging of lower quadrant.

against the backing of the brake band.

Designed to support the brake band and prevent it from dragging unnecessarily on the drum while coming out of the hole or while running in the hole prior to applying the brake, the device may be adjusted by loosening the two lock nuts and taking up on the threaded stud. The roller consists of a salvaged rotary chain link modified to permit it to swing in a vertical plane. A short horizontal pin installed in the center of the link serves as the axis of rotation about which the link may swing for a limited distance.

One of the advantages of the adjustable feature is that the "slack" in the band may be taken up at intervals as the brake material wears thinner, aiding in the operation of the brake.

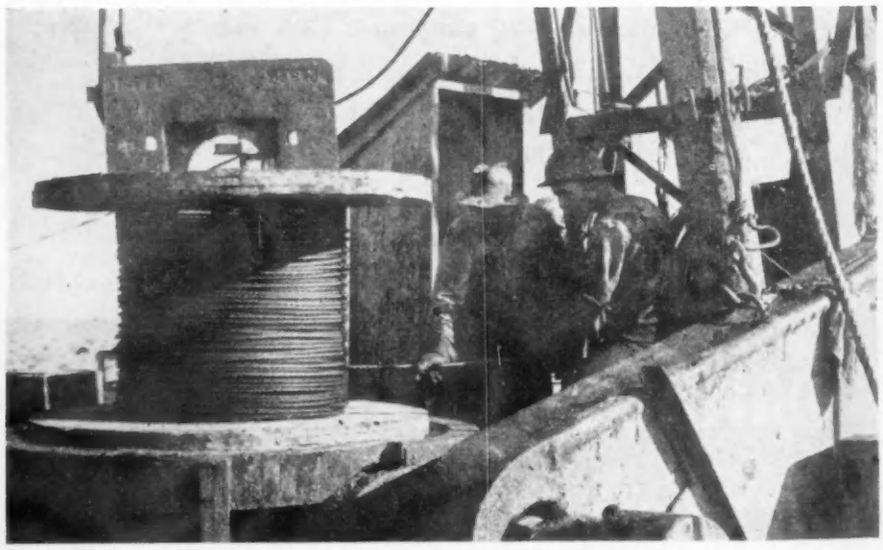
4. WIRE LINE HANDLING

Rotary Pinch Hits As Reel Rotator

ONE of the problems connected with some small portable rotary rigs is the difficulty of unreeling or spooling line on the drum. Often it is necessary to strip the line off the drum by snaking it along a road with a truck. In other cases a take-off from the rotary drive is used to turn a spool set up in a special stand on the derrick floor. A simpler method of spooling a cable such as the light sand line however, may be found in the method used by one operator where only existing equipment is utilized and little extra labor or rig time are required.

The wooden spool on which the line is to be reeled is laid on one side upon the rotary table and the end of the line affixed to the core of the spool. A heavy weight, which in the case illustrated consists of a half-kelly bushing, is laid atop the spool with the aid of the cat line, to hold it down firmly to prevent slipping. Power is then applied to the rotary table and the line pulled slowly off the drawworks drum. Aiding in the spooling, the derrick crew, equipped with gloves having a facing of belting material, guide the line and prevent it from bunching up. The reverse procedure may be followed in transferring line from a spool to the drawworks drum.

Granted that it may be more difficult to obtain perfect "layering" in a spool with this method, it nevertheless is a more practical method for the routine transfer of line when moving from one location to another, as the cable does not remain on the reel long enough to cause deformation or injury.



By setting the reel on the rotary table, and anchoring it with heavy weights, the table serves to give controlled winding or unreeling of sand and drilling lines without extra units.

☆ ☆ ☆ ☆ WASHINGTON ROUNDUP ☆ ☆ ☆ ☆

THE Saudi Arabia pipe line continued to be a major subject of discussion in Washington last week, but another pipe line entered the picture in the shape of a proposal by Pacific War Emergency Pipe Lines, Inc., to build a conduit from West Texas to California in anticipation of the switching of major military operations to the Pacific.

The proposal to carry crude to the West Coast came as PAW announced that it had certified a record-breaking production for April but disclosed that California output had been cut back because of declining productivity.

Developments in the PRC situation during the week included a defense of the Saudi Arabia pipe line by Secretary of the Navy Knox as a military necessity; the first meeting of the 11-man Senate committee to investigate that and other phases of the oil situation, at which Senator Francis Maloney of Connecticut was named chairman, and the resignation of Mortimer Kline as PRC general counsel.

With the committee due to inquire into the matter, Secretary Ickes is understood to have agreed that the formal conract for construction of the pipe line would not be consummated until the investigation had been concluded.

Manpower also became more of a headache than ever as oil company executives attempted to evaluate the results of the latest selective service policy of eliminating most of the deferments now granted men in the 18-26 age bracket. However, at the close of the week the situation appeared more favorable, as War and Navy and War Production Board officials came to an agreement that eight basic war industries should not be stripped of the young scientists and technical men now carrying most of the load of providing material. Included in the eight industries were aviation gasoline and synthetic rubber.

OPA Points to Saving, Stripper Subsidy Over Price Increase

»

Record Production Rate Is Set for Fields During April

»

Pipe Line from West Texas to Pacific Coast Is Urged

»

Aviation Gasoline Included in List for Draft Deferment

»

By B. F. LINZ,
Washington Correspondent

☆ ☆ ☆ ☆

OPA Claims Stripper Aid Possible Without Special Appropriation

Funds for the payment of "incentives" to stripper-well and wildcat producers can be made available without any action by Congress, it is disclosed by Price Administrator Chester Bowles in a letter to Russell B. Brown, general counsel of the Independent Petroleum Association, made public by IPAA last week.

In a five-weeks-delayed answer to a request by Brown for information on five specific points (THE OIL WEEKLY, February 21), the price administrator, charging that "the press has misinterpreted" the delay in submitting recommendations to Stabilization Director Fred M. Vinson, said that:

"1. We believe that the government possesses the legal authority to establish an incentive plan for the petroleum industry to stimulate exploratory drilling and to keep 'stripper' wells in operation.

"2. We believe that funds can be made available for such an incentive plan by the government without a special appropriation by Congress.

"3. We estimate that if petroleum prices are increased 35 cents per barrel, the direct cost to the United States government on its oil purchases will be $185,000,000 and that in addition it will cost the public $375,000,000, making a total cost of $560,000,000. These figures are based upon an estimated production this year of 1,600,000,000 barrels. If the price increases were confined to production from new discoveries and stripper wells, the total cost to the government would not exceed $115,000,000. The net difference which would be saved even by this approach, you will note, is $70,000,000 to the government itself, and $375,000,000 to the public.

"4. We are preparing a selective inducement plan for stripper wells at the request of Judge Vinson. While we have already discussed the plan we have in mind with you as a representative to stripper-well producers to determine its feasibility . . . we do not believe it appropriate to discuss the plan in detail until Judge Vinson and the Petroleum Administrator have had an opportunity to review it. The plan is a relatively simple one, which should be easy and inexpensive to administer. In our opinion, it is for Judge Vinson to decide who should administer the plan. It probably would be more appropriate to have it managed by the Petroleum Administration for War or the Reconstruction Finance Corporation. However, if asked to do so, we would not refuse the responsibility.

"5. We believe that if the plan we are considering meets with approval and orders are given to put it into operation, the administrative details can be set up in a relatively short period. We have already gathered much of the statistical information necessary to put the plan into effect."

Commenting on the letter, Brown asserted that "the determination to continue with a request for a proper price increase in spite of the reported suggestion of a subsidy for the operators of stripper wells only, seems proper.

"Money is being spent by our government to obtain oil throughout the world," he said. "Any venture except in the United States seems to be able to obtain money for oil.

"In this letter, through the repetition of figures which have become the stock argument of OPA, the beatific aspects of OPA's price freeze on oil are here set forth. No alternative solution to the real problem—shortage of supply—is offered. The effect of the long-continued policy of saving the public the pain of spending a few additional cents per month is beautifully shown in the latest reduction of gasoline rations throughout the country."

Navy Insists on Need for Saudi Arabian Pipe Line

Decision to build a 1250-mile pipe line in Saudi Arabia was approved by the Joint Chiefs of Staff primarily as a military move, but secondarily as a means of supplementing United States reserves, it was declared by Secretary of the Navy Frank Knox March 20.

That project, Knox asserted, marks the birth of a "genuine foreign policy regarding oil" from which, he said, the American people are not going to be diverted by "a lot of selfish oil companies."

"We are going to push this measure," he insisted, adding that it is not intended as a wedge to put the government into the oil business.

Unlike PRC President Ickes, who has admitted that the length of time which would be required to build the line takes it out of the category of war measures, Knox held it had a military value, saying:

"Any new source in the European area during the war is bound to reduce the amount of American oil used and also shorten the haul, which means a saving in tankers.

"Both militarily and economically, a new source of oil in the Mediterranean is exceedingly important, and for future safety and security to create there or in any area a reserve of 1,000,000,000 barrels of oil adds to our security."

Knox criticised optimism about the end of the war which he said has led some persons to maintain the pipe line should not be regarded as a war measure, asserting that by the same argument the construction of three large aircraft carriers might not be a war

measure, since they might not be completed before war ends.

He pointed out that 90 percent of oil used thus far in the war has come from the Western Hemisphere and said that with development of the pipe line there should be a rigid restriction of American oil to American use and a material curtailment of exports.

In other quarters it was disclosed that the Navy places little faith in the development of synthetic fuels for use when natural petroleum resources are exhausted. The Navy believes that present proven reserves will be exhausted in the foreseeable future, considers adequate additional discoveries to be problematical and figures that a synthetic petroleum industry would not normally develop in this country during peacetime.

Therefore, it is argued, the United States must look to foreign reserves for an assured continuation of its supplies, and the Middle Eastern fields are the only known large reserves outside this country in which American nationals already have sizable holdings.

Although domestic shale and coal may be potential sources of additional products, naval experts believe they can be realized only at excessive prices at which oil from those sources could not compete with imports from the Middle East. Consequently, it is held, unless it is subsidized, a synthetic industry could not be developed during peacetime and so would not be available in the event of another war, but would have to be improvised after war had begun and possibly while this nation was under attack. The alternative would be to exclude the cheap Caribbean and Middle Eastern oil from the American market during peacetime by a high tariff which in itself would be a hidden subsidy.

Exploration of Reserve In Alaska Contemplated

An engineering party, headed by William T. Foran, geologist, has flown to Point Barrow, northernmost Alaska, where it will make preliminary plans for geophysical, geological, and drilling exploration of United States Naval Petroleum Reserve No. 4. If Congress votes funds, exploration and drilling crews from the Navy, will be sent into the region this spring and summer to determine the value of that reserve. Northern Alaska is believed to have important oil production possibilities.

Definite Proposal Laid Before PAW For West Texas-California Pipe Line

A definite proposal for construction of a 986-mile 20-inch pipe line from Monahans, Texas, to carry sour crudes from the Permian Basin to Beaumont, California, for distribution to refineries in the Los Angeles area, was laid before PAW officials last week by Pacific War Emergency Pipe Lines, Inc.

Designed on the pattern of War Emergency Pipe Lines, Inc., which is operating the Big-Inch and Little-Big-Inch pipe lines, Pacific War Emergency Pipe Lines was incorporated with Angus G. Wynne of Dallas as president, J. C. Hawkins, West Texas operator, as vice president, and L. M. Glasco, also a West Texas operator, as secretary and treasurer. Wynne, not an oil producer, represents a large group of Texas independents. Headquarters of the corporation is in Dallas.

The three officers, accompanied by Olin Culberson of the Texas Railroad Commission, filed an application with PAW for priorities assistance in obtaining material. They declared the line would be privately financed, provided they were given the same amortization schedule that has been established for the 24 and 20-inch lines to the East Coast from Texas. It is estimated the cost would not exceed $50,000,000. The plan is for the line to tie into several West Texas gathering systems at Monahans. Due to lower prices in West Texas crudes, oil could be laid down in California on a competitive basis with West Coast production.

If necessary, officials of Pacific War Emergency Pipe Lines, Inc., say the line would be used for refined products. This would be achieved by reversal of pumps on some of the lines from West Texas to the Houston-Beaumont area.

The project is being pressed with a view of providing an adequate supply of crude oil to the West Coast when the Pacific becomes the major theater of war. In an effort to obtain support of independent oil producers, an opening meeting to discuss the situation is planned for Fort Worth during the coming week.

The proposed route of the line (see accompanying map) is from Monahans westward just north of the Mexican border, passing through or near El Paso, Deming and Lordsburg, New Mexico, and Tucson, Arizona, crossing the California state line at Yuma. From Monahans, which is 2620 feet above sea level, the line would climb as far as Deming, at an elevation of 4334 feet, and then would be downhill all the way to close to Beaumont, California. Seventeen pumping stations are provided for, seven of them on the uphill fourth of the route. From Beaumont, distribution to the refineries would be by gravity flow.

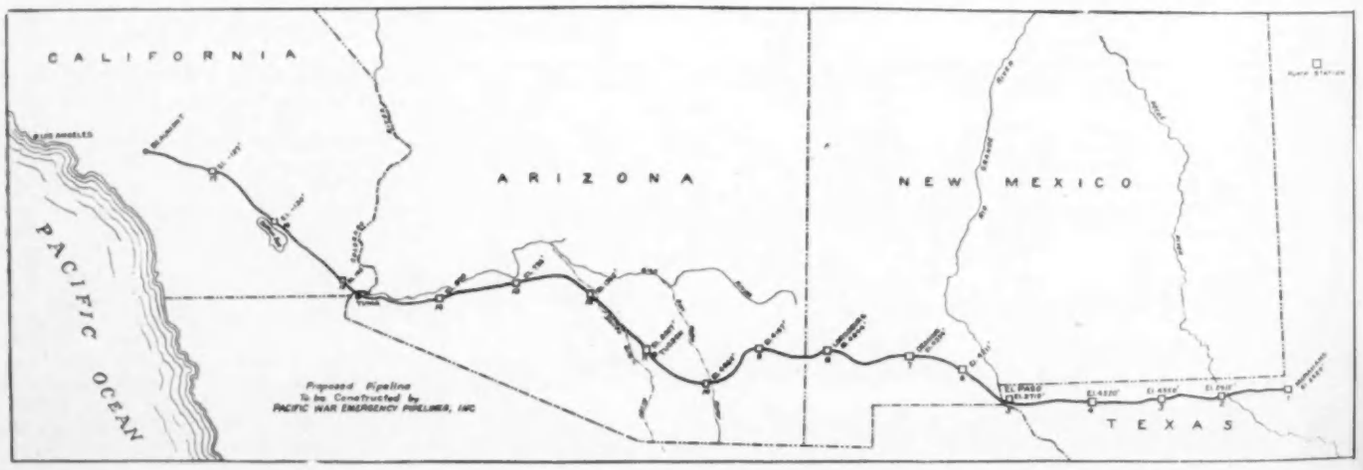
Construction would require approximately 175,000 tons of steel, and company officials said it could be completed and placed in operation within six months after materials were made available. No difficulties are anticipated in securing a supply of oil for the line, which would have a capacity of 180,000 barrels daily, since it is estimated West Texas fields can produce an additional 250,000 barrels a day which is not now being produced because of a lack of transportation.

It was pointed out that no time should be lost in preparing for the switching of the war from Europe to the Pacific, which will increase the demand for oil from the West Coast far beyond the ability of present transportation facilities to handle the load and with little likelihood that California production can be pushed much beyond its present level. The West Coast area, they declared, already is heading toward the same sort of transportation crisis which developed on the East Coast two years ago.

Depletion Charge Dealt With in New Opinion

Legal interpretation of treatment to be accorded oil properties reacquired by an original owner was issued by the Internal Revenue Bureau last week.

In the case in question, the "M Company," lessee of certain tracts of land, entered into contracts with an oil drilling partnership for the drilling of wells thereon, the contracts providing for payments to be made only out of one half



TRAVELING BLOCKS

by GUMBO BUSTER

Gumbo Buster's 534-30 3-Sheave Traveling Block is pictured in close coupled assembly with 50-ton or 100-ton hook. Built especially for short derricks or drilling masts to require less block-hook space. It is used as Standard 534-30 3-sheave block by removing bail, inserting spacer blocks in bail position and inserting roller to accommodate hook becket or bail.

Gumbo Buster's 8-46N Traveling Block is 300 tons capacity. Four or five manganese steel sheaves (rotating on large roller bearings) are 46" diameter. Rope grooves are ground to A.P.I. specifications for 1⅛" or 1¼" wire rope. The built-in wire line guard does not have to be removed to string up block. Lower clevis swings to either side to form support for standing the block upright. It is streamlined, with no projecting surfaces. It is quickly and easily strung up.

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of seven eighths of the gross oil and gas, if, when and as produced, the agreed amount per well to bear interest at 5 percent. The company reserved the right to repurchase the oil payments at any time for the cash amount of the unpaid balance less six percent. Pursuant to the contracts, assignments of oil payments were made in most instances. Subsequently, the company exercised its option and repurchased a number of the oil payments (some of which had never been formally assigned).

"When the M Company repurchased an oil payment previously segregated by it from its leasehold interest, it acquired a separate depletable economic interest which may not be combined or merged, for federal income tax purposes, with other separate interests owned by the company," it was held by J. P. Wenchel, chief counsel of the bureau. "In cases presenting substantially similar facts, cost depletion may be separately computed with respect to oil payments so acquired. However, when 'properties' such as those represented by the repurchased oil payments are extinguished by reason of production of the amount of oil attributable thereto, other interests or 'properties' in the tract which may be owned by the taxpayer are not enlarged or altered in any way, and no question should arise with respect to new elections at that time."

The opinion held that where, in consideration for the drilling of certain wells by the partnership, the taxpayer executed contracts creating in the partnership the right to oil payments to be paid from a share of the gross production of the various wells, the partnership obtained depletable economic interests in oil and gas in place irrespective of the formalities of legal conveyancing or the absence of a documentary assignment representing the property created by such contract, and when the taxpayer repurchased the oil payments it succeeded to the depletable economic interests which it had previously segregated from its total leasehold rights.

Little-Big-Inch Flow For April Scheduled

Movement of 3,865,000 barrels of products through the Little-Big-Inch pipe line, 2,965,000 barrels of it No. 2 heating oil and 900,000 barrels kerosine, has been scheduled by PAW for April, representing slightly more than two thirds of the line's capacity, the remainder being reserved for transportation of products needed by the government.

A tentative schedule for the following two months calls for the movement of 4,092,500 barrels in May (3,038,500 barrels of heating oil and 1,054,000 barrels of kerosine), but of only 3,894,000 barrels in June (2,865,000 barrels of heating oil and 1,029,000 barrels of kerosine), when military demand will be at a high level.

Brazil Engages DeGolyer As Petroleum Consultant

DeGolyer & MacNaughton, of Dallas, Texas, has been engaged by the Brazilian government as petroleum engineering and geological consultants. E. DeGolyer and John L. Murrell will leave immediately for Brazil, to get the project under way.

April Production Certified by PAW At Record High; Texas Increase Largest

April production of petroleum liquids will be at the highest rate ever recorded, under certifications by PAW to the producing states calling for a daily output of 4,725,000 barrels.

The April rate will be 79,100 barrels above that for the current month, 17,850 barrels above the previous high, set in January, 1944, and 519,400 barrels above actual production in April, 1943.

The national production rate for crude oil for the coming month was set at 4,441,500 barrels daily and that for natural gasoline and condensate at 283,500 barrels a day.

Rates of production were changed in 11 of the 20 states, 5 being increased and 6 reduced. The greatest increase was 78,000 barrels daily in Texas, where anticipated completion of Stanolind Pipe Line Company's line from the Slaughter field to Cushing, Oklahoma, will afford an additional outlet requiring some 45,000 barrels daily increased production from West Texas to maintain capacity movement from the area to meet requirements of District 2 refineries.

Other increases were in Michigan, Ohio, Oklahoma and Louisiana. Cutbacks were ordered in West Virginia, Kansas, Kentucky, Missisippi, Wyoming and California.

Crude production rates for the coming month were set by PAW as follows:

New York, 13,400 barrels daily; Pennsylvania, 41,000 barrels; West Virginia, 8800 barrels; Illinois, 225,000 barrels; Indiana, 13,600 barrels; Kansas, 285,000 barrels; Kentucky, 23,000 barrels; Michigan, 53,000 barrels; Nebraska, 1000 barrels; Ohio, 9200 barrels; Oklahoma, 328,000 barrels; Arkansas, 76,700 barrels; Louisiana, 337,700 barrels; Mississippi, 45,000 barrels; New Mexico, 111,700 barrels; Texas, 1,916,000 barrels; Colorado, 7000 barrels; Montana, 24,000 barrels; Wyoming, 93,000 barrels; California, 829,400 barrels.

Rates for natural gasoline and condensate were estimated as follows: Pennsylvania, 1300 barrels daily; West Virginia, 6800 barrels; Illinois, 13,000 barrels; Kansas, 5800 barrels; Kentucky, 2700 barrels; Michigan, 300 barrels; Ohio, 500 barrels; Oklahoma, 28,000 barrels; Arkansas, 5000 barrels; Louisiana, 34,000 barrels; New Mexico, 4900 barrels; Texas, 127,000 barrels; Montana, 300 barrels; Wyoming, 6900 barrels; California, 47,000 barrels.

Ask Oil Compact to Act Against PAW

Curtailment of the authority of the Petroleum Administration for War over well spacing, drilling and production practices is to be sought by resolution of the Interstate Compact Commission, it was proposed last week by the Railroad Commission of Texas, joined by the governor of that state.

A letter has been dispatched to the governors of the several states which are members of the compact, enclosing copy of a resolution addressed to the President of the United States, which is proposed will be acted upon at the meeting of the Interstate Oil Compact Commission at New Orleans on April 3 and 4.

Maloney Named Head of Oil Investigation Group

Senator Francis Maloney, Democrat of Connecticut will head the special Senate Committee of 11 which is to make a full investigation of the world oil situation (THE OIL WEEKLY, March 29).

Maloney was elected chairman at the first meeting of the group, and immediately appointed a subcommittee consisting of Senators O'Mahoney of Wyoming, Brewster of Maine and LaFollette of Wisconsin to lay plans for the organization of a staff.

As soon as the committee organization is set up, Secretary Ickes will be asked for all information regarding the status of the PRC pipe-line project, which probably will be the first major matter to be taken up when hearings are opened.

The Saudi Arabia project, however, Maloney said, is only one of the matters into which the committee will delve and its investigations will cover both domestic and international problems.

"We will have to look into nearly everything relating to petroleum, both international or domestic, that affects our war or postwar position," he explained. "Of course that would include a study of the large pools of oil remaining in the world, with a view to protection of United States interests."

April Texas Allowable Exceeds PAW Figure

A net production of 2,054,668 barrels daily which is 11,668 barrels in excess of PAW's recommended 2,043,000 barrels has been ordered for April by the Texas Railroad Commission. The program calls for 1,918,794 barrels of prorated crude oil and 135,874 barrels unprorated distillate and natural gasoline daily.

The state generally will be allowed to produce 23 days during April, but in order to arrest the decline in East Texas bottom hole pressure that section will produce 22 days, which means a 4000-barrel production below the March schedule.

Increases were distributed throughout the state otherwise except Panhandle's 401 barrel cut, with West Texas up 33,199 to 377,540 barrels, the Gulf Coast up 13,806 to 522,756 barrels and East Central Texas up 11,290 to 97,179 barrels. Increased allowables for other fields were relatively small.

No PRC Top Executive Left as Kline Quits

Petroleum Reserves Corporation, never a large organization, is down to a skeleton as a result of the resignation

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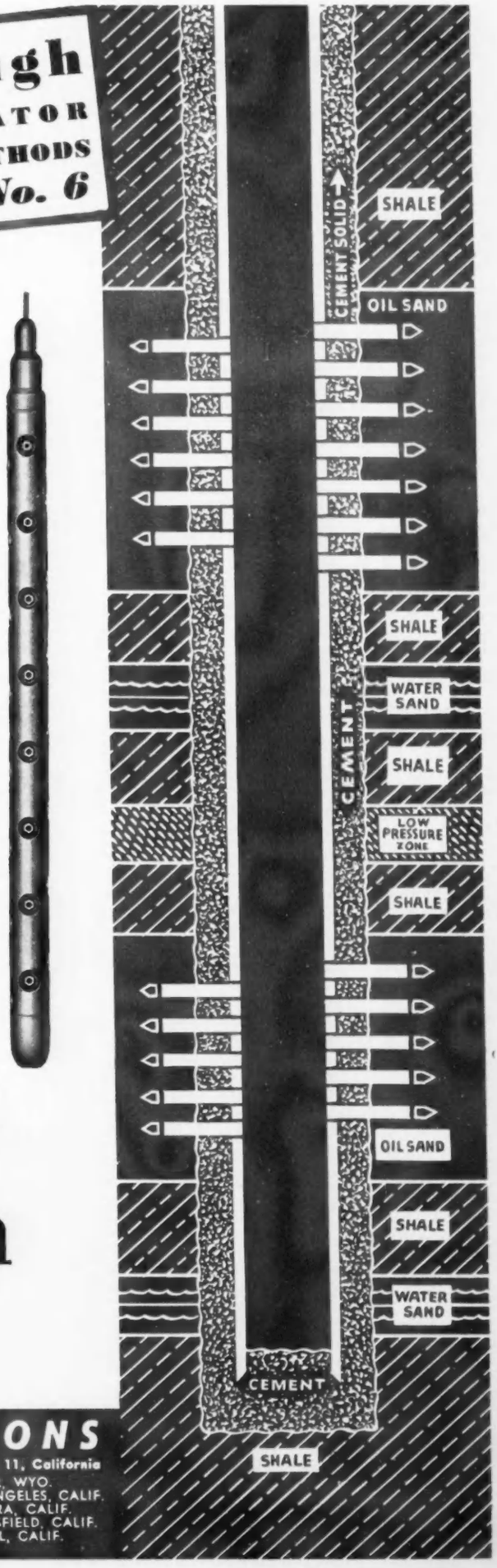

20 SERVICE LOCATIONS

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VICTORIA, TEXAS	ALICE, TEXAS	LAKE CHARLES, LA.	VENTURA, CALIF.
CORPUS CHRISTI, TEX.	MAGNOLIA, ARK.	OKLA. CITY, OKLA.	BAKERSFIELD, CALIF.
GEO. WEST, TEXAS	NEW IBERIA, LA.	SEMINOLE, OKLA.	AVENAL, CALIF.

of Mortimer Kline as general counsel.

Kline, returning to private law practice, will remain in Washington temporarily to serve as special counsel for PAW, principally to assist in a "series of pressing problems relating to the foreign division," Deputy Administrator Davies said March 21.

His resignation followed closely on the heels of that of E. Holley Poe, executive vice president and general manager. E. DeGolyer, who transferred from PAW to head PRC shortly after its creation last year, went on a per diem basis as a consultant some weeks ago.

PRC now is without any top executives, but Secretary Ickes announced some days ago that Poe's job would be filled and it is probable a new organization will be built up if the proposed contract with three oil companies for the Saudi Arabian pipe line goes through.

Kline joined PAW as associate chief counsel in 1942, switching over to PRC last summer.

AIME Petroleum Division Committee Members Named

Officers and chairmen of committees elected by the membership of the Petroleum Division, American Institute of Mining and Metallurgical Engineers have completed the selection of all committees to serve the Petroleum Division during 1944.

Preliminary arrangements are being made for the meeting of the Petroleum Division at Houston May 8, 9 and 10, with headquarters at the Rice Hotel. A regional meeting of the Institute will be held at the same time. The preliminary arrangements include an address by Dr. Chester A. Fulton, president of the Institute, a varied technical program and trips to nearby mineral industries.

Those in charge of the meeting include John R. Suman, director of the Institute, of Houston, Texas; I. W. Alcorn, chairman of the Gulf Coast Section, and W. S. Morris, chairman of the Petroleum Division.

Officers and committee members of the division include:

AIME Petroleum Division

Officers: W. S. Morris, chairman; H. F. Beardmore, regional vice chairman; Victor H. Wilhelm, regional vice chairman; Harold Vance, secretary-treasurer, Texas A. and M. College, College Station, Texas, and Chester Naramore, executive secretary, 29 W. 39th St., New York 18, N. Y.

Executive Committee of the General Committee: W. S. Morris, chairman; Stuart E. Buckley, Chester Naramore, B. C. Craft, C. A. Warner.

General Committee: W. S. Morris, chairman; H. F. Beardmore, L. W. Blau, Stuart E. Buckley, K. A. Covell, B. C. Craft, N. D. FitzGerald, P. E. Fitzgerald, M. L. Haider, W. P. Haynes, A. G. Loomis, Walter Miller, Chester Naramore, F. B. Plummer, H. H. Power, Harold Vance, C. A. Warner, Victor H. Wilhelm.

Papers and Programs: Benjamin C. Craft, chairman; Jan Law, vice chairman; C. R. Hocott, R. L. Huntington, Warren Jackson, Herman Kaveler, Douglas Ragland. Members ex-officio: L. W. Blau, K. A. Covell, N. D. FitzGerald, W. P. Haynes, A. G. Loomis, F. B. Plummer, H. H. Power.

Publications: M. L. Haider, chairman; R. F. Baker, E. S. Bleecker, N. D. FitzGerald, E. R. Lilley, J. M. Lovejoy, C. A. Moon, Warren A. Sinsheimer.

Economics: N. D. FitzGerald, H. J. Wasson, vice chairman; John M. Lovejoy, Joseph E. Pogue.

Education: H. H. Power, chairman; P. H. Bohart, M. L. Haider, D. L. Katz, C. V. Millikan, Carl E. Reistle, Jr., A. C. Rubel, E. A. Stephenson, L. C. Uren, Harold Vance.

Engineering Research: A. G. Loomis, chairman; C. V. Millikan, vice chairman; C. R. Hocott, D. L. Katz, John E. Sherborne.

Geophysics: L. W. Blau, chairman; Paul Weaver, vice chairman; Hart Brown, J. Brian Eby, John H. Wilson.

Membership: P. E. Fitzgerald, chairman; W. A. Alexander, John S. Bell, Harold J. Clark and Lloyd Elkins, associate chairmen; R. H. Allen, Herbert F. Beardmore, R. L. Blunden, James M. Bugbee, W. H. Burke, Charles B. Carpenter, C. J. Coberly, Kenneth Cottingham, B. C. Craft, A. M. Crowell, Harold Decker, J. Alfred Deffeyes, J. M. de la Garza Cardenas, Bart DeLast, George R. Elliott, Fred B. Ely, Chas. E. Erdmann, R. U. Fitting, Jr., R. O. Garrett, W. J. Gillingham, M. Gordon Gulley, Michel T. Halbouty, Paul J. Howard, Emile Huguenin, C. H. Keplinger, W. A. Leech, Jr., John A. McCutchin, R. B. Newcombe, Wm. T. Nightingale, Douglas Ragland, Colin W. Reith, W. E. S. Schoeneck, Joseph H. Sinclair, S. E. Slipper, Walter H. Spears, Everett F. Stratton, L. B. Taylor, Marshall C. Turner, George W. White, Fred S. Wright, Jr.

Production: W. P. Haynes, chairman; Lewis W. MacNaughton and Lyon F. Terry, vice chairmen.

Production Engineering: K. A. Covell, chairman; M. Albertson, vice chairman; E. H. Griswold, H. H. Wright.

Production Geology: F. B. Plummer, chairman; James M. Bugbee, vice chairman; Alfred H. Bell, Monroe G. Cheney, Paul Weaver.

Refinery Engineering: Walter Miller, chairman.

Nominating: C. A. Warner, chairman; John S. Bell, W. B. Berwald, George Corless, C. P. Porter.

Role of Gas in Postwar America Reviewed at New Orleans Meeting

By A. R. McTEE, Staff Writer

From serving as fuel for heat-treating important parts of war weapons to warming quarters for soldiers in isolated camps, the part taken by gas in the war effort was reviewed by the Wartime Conference of the Southern Gas Association in New Orleans, March 22 and 23. Thought at the meeting included both record and preview; for out of what has been accomplished under the stress of war demands will come much that is certain to be of benefit to the industry as well as the public. Gas has met the challenge forced upon it and has helped keep war production going. Industry has been served without noticeable inconvenience to the civilian population dependent upon gas. Prospect is bright for continued fulfillment of all needs for gas, and in spite of wartime handicaps, the gas industry is determined that its record of performance will be upheld throughout the emergency.

The theme of heat for energy and power to meet unprecedented requirements forced upon the industry by war ran through a number of the presentations. The responsibility of all personnel, from the driller prospecting for gas to the service man employed by the company that sells the refined product, was stressed as vital. Double effort and attention to the current job are necessary in the face of manpower shortages, limitations on availability of equipment, and other obstacles.

Developments in the post-war period that are certain to mean greater consumption of gaseous fuels, thus ultimately leading to more extensive exploration of gas reserves were discussed. A variety of gas appliances was reviewed and year-round gas air conditioning ready to be pushed when war is over, definitely offers a profitable new load-level, with a vast amount of extra business that can be handled on existing facilities.

Industrial activity through maximum utilization of hydrocarbons using gas as the raw material was suggested. Chemicals and derivatives already known to be obtainable from gas are numerous enough at present to assure profitable ventures from a good many angles. Undoubtedly more uses will result from current research and the "Petro-Chem" industry is destined to flourish. The paper read by Frank H. Dotterweich, Dean of Engineering, Texas College of Arts and Industries, and consultant for PAW, and prepared by him in colloboration with James E. Pew, Director, Natural Gas and Natural Gasoline Division, PAW, on the subject, "Maximum Hydrocarbon Utilization with Gas as a Raw Material," presented the most up-to-date information in its sphere.

Frank C. Smith, president of the association in his keynoted message, stressed the responsibility of the industry to the war effort first, and the home front secondly, in the fight for civilization. He also pointed out the contribution of gas to the high standard of American living and emphasized that gas is no "war baby," that it has a long history of dominant influence as a fuel and source of energy and power, and that its adaptability and usefulness will be further expanded when the war is over.

The committee for improvement and standardization of post-war residential gas appliances report was in the form of a booklet of recommendations which manufacturers of gas burning equipment are using as a guide.

Among new uses for gas, food dehydration was discussed as offering great possibilities, especially in the south and southwest. Progress is being made in food studies for both man and animals, and dehydration processes, due to become important, depend upon gas for fuel. Many foods have their best utilization through being processed and offer the greatest nutritive values after being dehydrated.

No date or place was set for next year's meeting of the association because of wartime difficulties.

New officers elected include: Frank S. Kelly, Jr., president, Arkansas Louisiana Gas Company, Shreveport; Clayton L. Nairne, first vice-president, New Orleans Public Service, New Orleans; J. H. Warden, second vice-president, Oklahoma Natural Gas Company, Tulsa, and L. L. Baxter, secretary-treasurer, Arkansas Western Gas Company, Fayetteville, Arkansas.

Production Tax Is Held Invalid in Illinois

The 3 percent oil production tax in effect in Illinois since July, 1941, has been held unconstitutional by the Illinois Supreme Court, because of "lack of uniformity." The tax had been challenged by Ohio Oil Company, Superior Oil Company, Shell Oil Company, and several other companies in Sangamon County circuit court, which ruled that it was constitutional. About $10,000,000 paid under protest will be returned to the companies.

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Arabian American Company Gets Amortization Rights

The War Production Board has granted Arabian American Oil Company a certificate of necessity allowing a 35 percent amortization of the $48,000,000 investment involved in constructing its projected new refinery at Ras Tanura, Saudi Arabia. The WPB is considered to have been forced to grant the 5-year write-off privilege because joint chiefs of staff held that the project is essential to war effort. PAW previously had recommended that the company be allowed to write-off to cover increased costs of construction.

The refinery is scheduled to begin operations in the autumn of 1945, with an output of 50,000 barrels of 80-octane gasoline daily. After the war the company plans to expand the refinery, adding kerosine and lubricating oils to its list of products.

Record Deep Well Near Completion at Baku

The deepest oil well ever drilled in Russia, according to a Soviet news release, was drilling below 11,500 feet in February, at a location in the Baku district, far out on the Peninsula that extends into the Caspian Sea east of the town of Baku. Information indicates that the hole was started high on the slope of the Caucasus Range, the eastern end of which projects into the sea to form the Apsheron peninsula.

Depth of 2500 Feet Planned for Gaspe Well

Continental Petroleums, Limited, has announced that C.P.L. 2, on the Gaspe peninsula at the month of the St. Lawrence River, had been drilled to 1350 feet on March 4, seven weeks after being spudded in January. The company plans to carry the hole to approximately 2500 feet and to conduct coring operations ahead of drilling from 1950 feet down. It is expected that the well will be completed before the end of April. Location is 113 feet east of a well drilled in 1896, which is still yielding high-gravity oil from 2058 feet.

Vermilion Field Is Runner-up in Alberta

The Vermilion oil field, due east of Edmonton, and near the border of Saskatchewan, produced more oil in 1943 than any other field in Alberta, with the exception of Turner Valley, according to official figures. A total of 93,258 barrels, from 36 producing wells, was produced during the year, making a cumulative total since discovery of the field of 189,399 barrels.

Indian Lease Sale

Bids on 59 tracts totaling 5,118.84 acres in 14 Oklahoma counties on restricted lands will be opened Tuesday, April 18, at 10:00 a.m., at the office of the superintendent of the Five Civilized Tribes at Muskogee.

The tracts by counties include: Notawa, 30 acres; Creek, 540 acres; Wagoner, 160 acres; Marshall, 240 acres; Jefferson, 125.14 acres; Carter, 669.72 acres; Stephens, 290 acres; Grady, 510 acres; McClain, 10 acres; Murray, 367.78 acres; Seminole, 80 acres; Cool, 701.07 acres; Hughes, 476.86 acres; Okfuskee, 998.27 acres.

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Progress in Oil Finding Methods Reported by Exploration Scientists

Despite shortage of trained personnel, meeting of American Association of Petroleum Geologists and affiliated societies indicates research may solve several major discovery problems

By DON CARROLL, Staff Writer

ANNUAL meetings of the American Association of Petroleum Geologists, the Society of Exploration Geophysicists, and Society of Economic Paleontologists and Mineralogists, at Dallas, March 20-23, were attended by no more than 1500 members and guests, but it recorded marked progress along related lines of geological research that may ultimately lead to solution of a number of problems in fundamental and applied science.

Addresses, papers and informal discussion talks ran the gamut of specialized fields of interest and current problems, from a practical theory promising a solution to the problem of locating stratigraphic trap oil fields, to the serious shortage of trained technical personnel, and from the mystery of the origin of oil to the presentation of factual information regarding geology and future producing possibilities of the Near East and other petroliferous provinces.

How to Find Stratigraphic Traps

A new theory that holds forth the promise of solving the problem of how to locate stratigraphic trap accumulations of oil was advanced by Dr. Paul D. Krynine, of Pennsylvania State College, in an informal discussion of "Oil Fields in Time and Space," along with some new concepts and classifications of sediments and their post-depositional histories.

In advancing his new concept of oil finding he pointed out that oil accumulates in commercial quantities only when certain critical criteria prevail. These criteria can be established, and then applied to "diagnose" subsurface sedimentary conditions that satisfy them. Once these few criteria are recognized and evaluated, he explained, "criteria gradients" can be mapped that will locate so-called stratigraphic traps, just as accurate structure maps fix the locations of anticlines. The method would be applied through the study of well cores and cuttings, using special new techniques that are aimed at assessing the degree of expression of certain critical characteristics or properties of the sediments that control the origin and accumulation of oil in petrographic traps.

"We will have to find out exactly why oil-bearing sediments contain oil, and then look for more of the same," he said in effect.

He described stratigraphic, or petrographic, trap oil pools as "petroliferous placer deposits." He said, further, that there is no reason why geophysical instruments can not be used effectively in searching for them, whether as currently designed or as they may be designed for this special use.

He said that commercial oil sands are "abnormal" sediments, with abnormal porosities and abnormal mineral components, and that presence or absence of such insignificant minerals as illite or chlorite are apparently of the greatest significance. "There is a definite relationship," he said, "between the formation and accumulation of oil and types of sediments in which oil is found." If geologists cooperate in establishing the fundamental philosophy involved, the way is open for practical application of this philosophy to the finding of more oil fields, he believes.

Challenge to Geology

"The burden of finding needed new supplies of petroleum falls directly on petroleum geology. This is the challenge to the science, and it must be faced squarely," said A. Rodger Denison, in his address as retiring president of the American Association of Petroleum Geologists.

"Our modern machine age is made possible by abundant supplies of raw materials with which to build machines and an adequate supply of mineral fuels with which to propel them," he said. "The war has brought an accelerated rate of use of our known deposits of both types of materials, and the material destruction involved in carrying on the war will call for an even greater expenditure of these raw materials for rebuilding in peacetime . . . Can adequate supplies of these raw materials and mineral fuels be found to meet the coming need?"

Denison pointed to the critical existing shortage of trained geologists as a factor of vital importance in limiting efforts that can be put forth to find more oil reserves, and said that only a handful of students are being trained in geology despite the greatest need in the history of the oil industry.

He called for a general and thorough re-appraisal of previously discarded or forgotten reports and maps that may look better as prospects today than when they were prepared and rejected years ago. "The third-rate properties of a few years back might be as good as the best prospects that are given exploratory attention today," he reasoned.

He pointed out that the science of geology draws from every other science and from mathematics, and emphasized the need for a more broad type of training for geologists of the future.

"Exploration has suddenly emerged as the bottleneck of our domestic petroleum industry," said R. D. Wyckoff, retiring president of the Society of Exploration Geophysicists. "This is because of war demands on our industry, while of themselves not a back-breaking quantity, have nevertheless served to emphasize the widening gap between added reserves and ever-mounting depletion rates.

"It is implied, therefore, that perhaps geophysical methods have not kept pace with modern technological developments. With an eye to some of the remarkable new 'gadgets' of war the industry is prone to look forward to the time when its geophysicists may inherit some of these new methods and put them to use. It is generally felt that technological developments coming out of wartime research will provide some of the new tools for locating stratigraphic and related traps, which, we are told, are the backlog of our undiscovered domestic reserves.

"Some new instrumentation resulting in improved performance of geophysical equipment will inevitably come out of the accelerated research that are incident to war developments; but the delusion that new methods will be immediately available should be dispelled, lest we lose sight of methods whereby existing tools may be made more useful and more effective.

"Instrumental improvements alone will not result in the sudden emergence of stratigraphic traps as clear-cut pictures on seismograph maps . . . Geophysics is, first of all, a scientific tool; but its practical application is as much an art as the practical application of geology. An imaginative and venturesome geophysicist is as necessary as the instruments he uses; but the current administration of geophysical work suppresses rather than encourages such traits. In those organizations where geophysics is considered merely a tool rather than a part of the machinery of exploration this trend will continue, and the industry will continue to cry for technological advances in vain. They will not be forthcoming. The elusive traps which are now so much the objects of search may be found with the tools at hand, but the attendant risks must be accepted as the price to be paid."

More Knowledge and More Expense

Speaking on "Paleontology, Petroleum, and the Search for Oil," Dr. J. Harlan Johnson, outgoing president of the Society of Economic Paleontologists and Mineralogists, said that in order to find more oil fields, especially of the

well-hidden stratigraphic-trap type, what is required is "more hard, detailed work, the expenditure of greater sums of money on exploration, and the acquisition of more knowledge by all interested geologists and others."

"All of us," he said, "geologists, geophysicists and paleontologists, are endeavoring to help win the war by finding new supplies of petroleum. The task is difficult because all the easily discovered simple structural accumulations have been found in the United States. In order to go on from this point we will have to do much more detailed field work to establish the necessary facts required for working out facies of deposition of sediments. This will mean performing much more painstaking work than has ever been done in the past, and all groups will have to cooperate to the fullest extent. This is the only proved method that we can apply toward a solution of the discovery problem, and as far as our present state of knowledge is concerned it is the only way to find stratigraphic traps. This is expensive work, but the money will have to be spent in order to secure the desired results. All groups will have to work together, for the problems of the future are too large and too complicated to be solved by individuals or single methods of attack."

World Petroleum Reserves

"The age of oil is upon us . . . Where is the oil to be found, and how long will it last?" was asked by G. C. Gester, of San Francisco, and answered in his paper on World Petroleum Reserves and Petroleum Statistics.

"Our present knowledge of the petroleum reserves of the world outside of the United States varies from good to bad," he said. "We have data on a few countries that permit us to set up figures of proved reserves with somewhat the same degree of accuracy as in the United States. For many other countries the data are meager or conflicting. The term 'indicated reserve' is therefore used to convey the idea of relative approximation, and the various nations can thus be roughly placed in their proper positions in the oil-producing list.

"Estimates of the indicated crude oil reserves of the world range from 50 to 60 billion barrels. They are not evenly distributed over the face of the world. Two areas, on opposite sides of the globe, have more than 95 percent of these indicated reserves, distributed as follows:

	Indicated Reserves—Millions of Bbls.	
	Conservative	Optimistic
United States	20,000	25,000
Mexico	400	600
Colombia	425	500
Venezuela	5,700	6,300
	26,525	32,300
Persian Gulf	14,000	17,000
Caspian Basin	5,500	7,500
	19,500	24,500
Total	46,025	56,800

"By cutting down the areas in the New World to include only the southern portion of the United States and Mexico, on the one hand, and the oil fields of Venezuela and Colombia on the other, the bulk of the known reserves—over 75 percent, are confined to four geologically young crustal depressions, tributary to the Gulf of Mexico, the Caribbean Sea and Persian Gulf and Caspian Sea. One other crustal depression, that of the East Indies, containing an estimated billion barrels or more of reserves, might be added. The remainder of the presently known reserves are found scattered over the globe, for the most part in small, restricted basins.

"To the geologist who wishes to look at the petroleum prospects of the world this is thought-provoking, for there are other great crustal depressions on the earth. Like these depressions, the oil deposits found in them are geologically young. More than 50 percent of our domestic production to date has come from older, Paleozoic rocks; but our present proved reserves lie mostly (75 percent) in Mesozoic and Cenozoic rocks. Outside the United States, according to Wallace Pratt, less than 2 percent past production and known reserves have been found in rocks older than the Mesozoic; and for the world as a whole, 87 percent of known reserves are Mesozoic or younger in age.

"There is an indicated reserve of more than 50 billion barrels of oil in the world. United States has two fifths of it, but is taking it out nearly twice as fast as the rest of the world."

E. DeGolyer presented the highlights of the geology and petroleum possibilities of the Near East, based on a joint study of the area made by himself and W. E. Wrather during the early weeks of last winter.

He exhibited a preliminary geologic map of the area and described the general geological conditions that prevail there, including the existence of a sedimentary section that attains a maximum thickness of at least 40,000 feet inside the crescent-shaped buttress of pre-Cambrian rocks that bound the region on the west and north.

Near Eastern Oil Fields

The proved and indicated reserves of individual areas in the Near East, as estimated by DeGolyer, are as follows:

Kuwait—9 billion barrels
Iran—6 to 7 billion barrels
Iraq—5 billion barrels
Saudi Arabia—4 to 5 billion barrels
Qatar—1 billion barrels

He stated that the Kuwait field was the world's greatest, and that three quarters of the production of Iran and Iraq is secured from wells averaging from 10,000 to 15,000 barrels each per day. The real possibilities of the region can be judged by the fact that only 150 wildcat wells have been drilled there to date, but that they have established reserves equal in quantity to those of the entire United States, he said.

In Arabia, five wildcats resulted in the discovery of the three fields now being developed there. Only two of the five holes were dry. The Kuwait field, according to DeGolyer, is only half drilled up.

The Kirkuk field, he said, is 60 miles in length and little more than a mile wide. Its structure shows dipping beds on the northeast, with overthrusted beds on the southwest. All the oil field structures of the region he described as a series of anticlines, situated along trend lines that parallel the inside, crescent-shaped arc of the pre-Cambrian shield.

The geology is different on opposite sides of the Persian Gulf, he explained. The structures on the Arabian side are characterized by low dips and rather simple anticlines; while on the Persian side the sediments are highly folded and faulted. There are many salt domes in Southern Iran and in the area around the southern part of the Persian Gulf, DeGolyer said.

He indicated agreement with geologists who have worked many years in the Near East area, that most of the oil migrates upward from tight limestones, through fractures and fissures in the higher strata, and that most wells are bottomed in the fractured zones. The wells are effectively operated by expanding gas-cap drive, he believes, and field operating techniques are generally superior to those of the average American fields. As an example he described the method of operating one of the larger fields, with a single valve controlling the flow from all the wells in the field. The oil from this field traverses the 160-mile pipe line to Abadan by gravity flow and is piped directly into the refinery stills. There is no storage of the oil either at the field or at the refinery. The oil thus is run directly from the well head, through individual vertical separators, and comes out of the closed system in the form of products of the refinery.

South American Possibilities

"One of the largest areas of potential oil territory not yet producing oil is the huge Parana basin region of South-

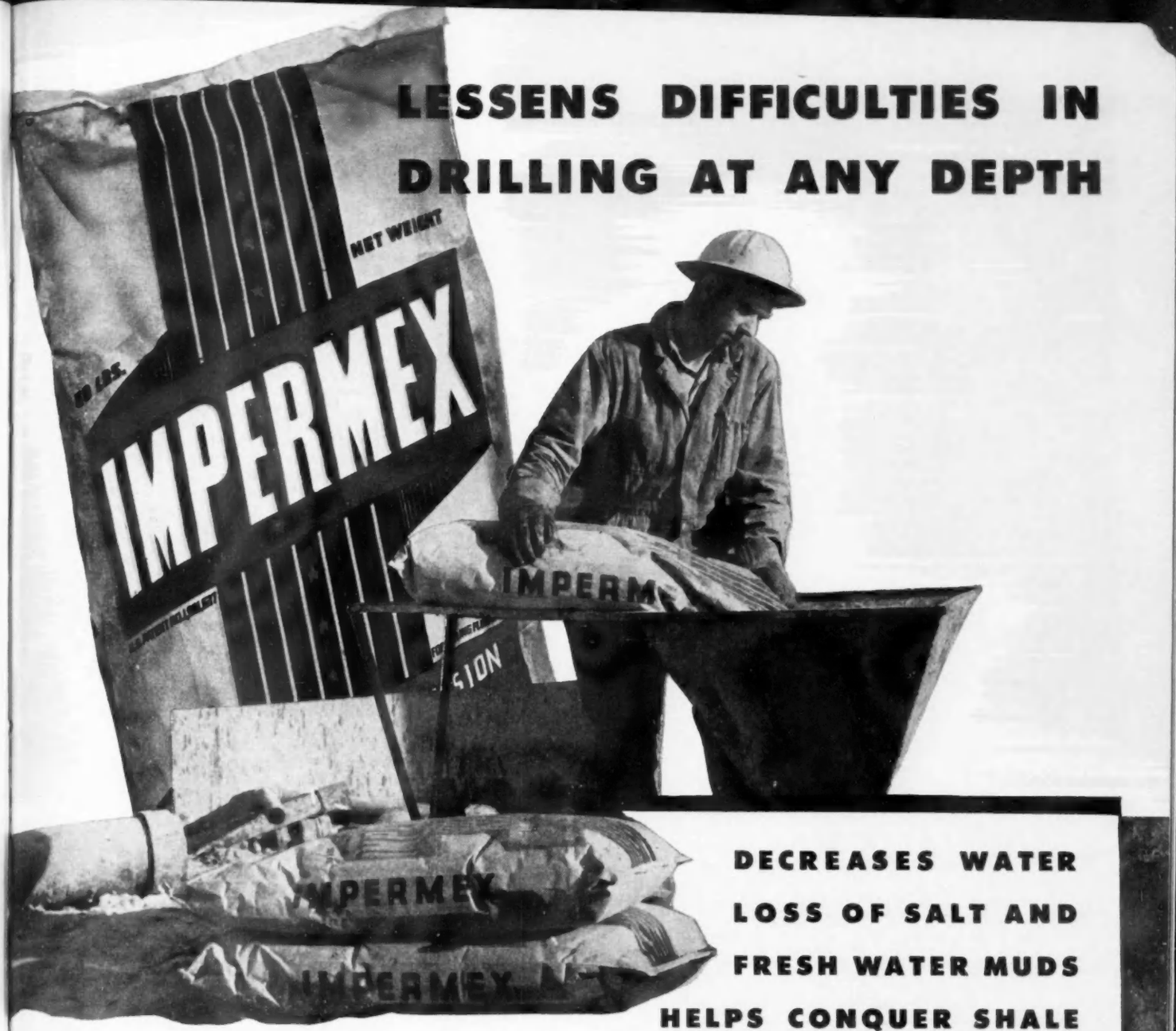
NEW AAPG HEAD

IRA CRAM

Members of the American Association of Petroleum Geologists last week elected Ira Cram, assistant chief geologist of The Pure Oil Company, Chicago, as their president. He succeeds A. Rodger Denison, Amerada Petroleum Corporation, Tulsa.

Warren B. Weeks, Shreveport district geologist for Phillips Petroleum Company, was elected vice president. The new secretary-treasurer is Robert E. Retther, geologist for Sun Oil Company, Dallas. Dr. Gayle Scott, professor in the Department of Geology at Texas Christian University, Fort Worth, was chosen editor of the association's monthly bulletin.

LESSENS DIFFICULTIES IN DRILLING AT ANY DEPTH



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western Brazil, Paraguay, and Northern Uruguay," according to John L. Rich, of the University of Cincinnati, who spoke on "Prospective Oil Territory of South America."

"The sedimentary sequence in this basin," he said, "ranging from Devonian to Triassic, is promising; but most of the area is covered by an enormous lava field, which makes prospecting extraordinarily difficult."

He pointed out that the Andes cross a number of large sedimentary basins, and to the east have folded the sediments intensively, but to a gradually diminishing degree farther east of the main mountain mass. This folded belt, in his opinion, is the largest and the most promising known oil-bearing region of the continent.

Oil fields have been developed at intervals in this belt east of the Andes, from Neuquen, in Argentina, to the island of Trinidad, including the fields of Northern Argentina, Central Bolivia, the recently discovered Agua Caliente field of Peru, and the fields of Eastern Venezuela.

In Southern Argentina a Mesozoic sedimentary basin was formed, extending from the Atlantic to the Pacific, and in this basin is found the oil production of Comodoro Rivadavia and of Neuquen.

On the west coast of Northern Peru and of Ecuador a thick series of sediments and trapping structures, constituting the important oil province of the region, were developed as a result of subsidence and block faulting in the Tertiary era.

Rich mentioned the existence of such features as the Magdalena trough and Maracaibo basin as typical intermontane basins lying between the Andes ranges, similar examples of which should also be oil-bearing.

In Northeastern Brazil, near Bahia, oil has been found in small amounts in a graben-like trough of Cretaceous and older sediments bounded by crustalline rocks on either side. The Bahia Basin widens to the north, he said, and is large enough to contain important oil accumulations. Prospecting is made difficult in that area because of mantle of Pliocene coastal sediments.

He suggested the possibility of oil being present in the lower Amazon valley, near Obidos, where there exists a broad basin of Paleozoic strata. This basin is shallow, though, and may not contain important accumulations for that reason, although showings of oil and gas have been noted at various localities, and have been encountered in test wells.

Geology of China

J. Marvin Weller, of the Illinois Geological Survey, the last American geologist to do extensive exploratory work in China before the war, presented a paper outlining the principal features of the geology of China. He revealed that the structural framework of Greater China consists of three positive areas and the geosynclines that separate and enclose them.

He exhibited stratigraphic charts and maps showing the rock sequences in interior Asia and the paleogeographic changes that have taken place in the area in the past. Describing the general geology of the area, he said that a thick succession of Paleozoic formations accumulated in a great trough which extended northeast-southwest across China proper. At the end of Ordovician time this trough was restricted on the north, and Silurian, Devonian and Mississippian strata are not represented in north China. The Pennsylvanian and Permian seas, however, invaded the area, building up sedimentary deposits.

Eastern Asia was uplifted at the end of Triassic time and later sedimentation was almost entirely non-marine. Mountain-forming movements, which began in mid-Pennsylvanian time, have continued up to the present, producing a series of shifting sedimentary basins in which all later formations have accumulated.

The structure of Central Asia, according to Weller, is dominated by curving east-west mountain arcs, but the coastal region is characterized by northeast-southwest trending structures. Throughout most of China these two systems have produced a complicated interference pattern. Most parts of China are intensely folded and faulted. Five large sedimentary basins are present, however — two in Turkestan, one in Tibet, and two in Western and Northern China proper.

Florida and Georgia

Mr. and Mrs. Paul L. Applin presented a preliminary summary of the results of the joint study they are currently conducting on the subsurface stratigraphy of Florida and Southern Georgia, including general descriptions of the structure and micropaleontology of the bedrock series in the area.

They reported that sediments from Recent to Lower Cretaceous age are known to occur above the basement rocks there, and that even older strata may be present below the Lower Cretaceous in the deeper parts of the basins. In Southern Florida the sediments are as much as 11,500 feet in thickness.

The study has shown that beds from the top of the Oligocene to the base of the upper middle Eocene form a continuous series of limestones throughout the area. Below this series, down to the base of the Upper Cretaceous Austin Chalk, each formation exhibits two distinct facies of desposition. In west Florida and Southern Georgia clastic sediments prevail, similar to those of the Western Gulf Coast. Over most of the intervening area of the Florida peninsula the sedimentary sequence is one of almost continuous limestone beds, from the top of the Oligocene to the lower Cretaceous. In Northern Florida these two facies grade into each other, with the limestones overlapping the sands and shales coming in from the west. The faunas are distinct in the two areas.

The authors have prepared paleogeographic maps, showing the known and probable underground extent of the various units discussed in their paper, with interpretations of the transitions from one facies to another. A correlation chart and two structure cross sections have also been prepared by them, and will be made available.

Geophysical and Geochemical Methods

Seismic surveys by the correlation refraction method give data for accurate structure mapping in areas where the reflection method has been ineffective, according to Gillin, Alcock and Arnett, of National Geophysical Company. The authors cited the failure of the reflection method to find structure in the Edwards Plateau region, where the presence of the Edwards lime at the surface has defied the successful application of the reflection survey method, but has not proved an obstacle to detailed mapping by the correlation refraction method. As evidence of the claim of the effectiveness of the latter method in such areas the authors exhibited a seismic map of the Todd area, Crockett County, Texas, contoured on a refracting horizon near the top of the Ellenburger limestone and showing a closure of 1300 feet. They pointed out that in those parts of the plateau where the surficial Edwards lime is thin or absent it is possible to use the reflection method with satisfactory results. Such problem areas, however, according to the authors, still represent virgin territory for exploration by methods other than those already tried.

Paul H. Boots, of Gulf Research & Development Company, reporting on "A Geophysical Survey of Kuwait, Persian Gulf," said that the problem of finding oil in some of the more promising sedimentary basins of the Near East is analogous to going into the Gulf Coast, California, or Oklahoma in 1890 with present day geophysical equipment to look for fields that were undiscovered at that time.

He described a geophysical survey made in Kuwait in 1936-1937, when

NAMED PRESIDENT

W. M. RUST, JR.

William M. Rust, Jr., Humble Oil & Refining Company, Houston, was elected president of the Society of Exploration Geophysicists at the fourteenth annual meeting of the association in Dallas last week. He succeeds R. D. Wyckoff, Gulf Research & Development Company, Pittsburgh.

Henry C. Cortes, Magnolia Petroleum Company, Dallas, succeeded Rust as vice president. W. H. Taylor, Petty Geophysical Engineering Company, Houston, was elected secretary-treasurer, succeeding Hart M. Brown.

J. A. Sharpe, Stanolind Oil & Gas Company, Tulsa, continues as editor of the society's publication.

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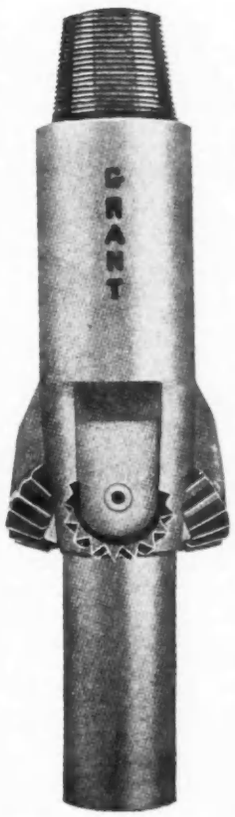

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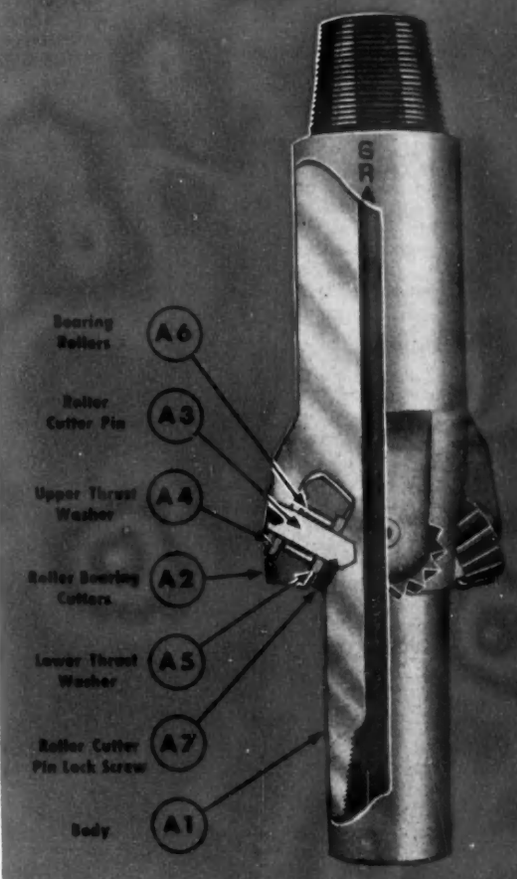

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little was known about the geology of the region. Work was done with magnetometer, gravimeter and seismographic equipment. Reconnaissance with the magnetometer and gravimeter revealed the location of an anomoly area that was then surveyed with the seismograph. The structure was outlined in detail by the seismograph, after which drilling proved the existence of the large field now being developed there. Boots emphasized the value of using several geophysical methods in a new area, especially where geological control is unavailable. He advised similar procedure for all contemplated work in the Near East. Such methods are economical, he maintained, since they lend themselves to any type of work and can be adjusted according to conditions. Furthermore, they supplement each other, so that no time is lost in following up leads furnished by any one of the tools thus used.

Analysis for Radium

Further confirmation of the importance of analyzing surface materials for radium-salts content, as a guide to predicting the presence below of oil and gas accumulations, was made by R. M. Tripp, of Colorado School of Mines, in a "Radon Survey of the Fort Collins Anticline." His study dealt with gathering facts regarding the chemical equilibrium of surface sediments above an oil reservoir, in which are contained certain residues evaporated by gas from ascending waters.

He found that mineral materials of low solubility may be readily precipitated in the surface zone, or contain colloidal substances that are flocculated as a result of evaporation. By examining the more insoluble compounds occuring in the soil solutions he found traces of radium salts. Measurement of these salts, in his opinion, appear to be more easily adapted to field evaluation than most other possible substances that may be present. This suggests that they are more universally present and more stable in nature. The radon content of the soil was determined by taking samples from air held in the soil interspaces.

Radioactivity Logs

Within the past five years approximately 2100 radioactivity logs have been run in 341 oil fields in the United States and South America, according to J. C. Barcklow, of Lane-Wells Company, who spoke on the scope and utilization of radioactivity logs. Sufficient background and experience have now been gained, he said, to demonstrate the technical and economic value of such logging methods. Most of the logs have been gamma-ray logs, recording the natural radioactivity emanations from the subsurface strata penetrated in drilling operations. In describing uses of radioactivity logs, Barcklow stated that porous, fluid-bearing parts of limestones may be distinguished from the dense, non-fluid portions. Both gamma ray and neutron logging can be used separately or in logging the same wells, he said, since they supplement each other. Either may be used in cased or open holes, in natural or mud fluids, salt or fresh water, gas or oil.

In soil analysis studies it has been found that there exists in the soil air a gas, other than the saturated hydrocarbons, which is not removable by recognized screening agents and which is retained in the condensation trap. There are various valid reasons for believing that this gas in nitrous oxide, and its presence is likewise explainable. This was the gist of the information given by Monroe W. Kriegle, of the Carter Oil Company, on "Analysis for Hydrocarbons in the Presence of Nitrous Oxide."

He also suggested a method of calculation for obtaining a true measure of the hydrocarbon content of soil air samples regardless of the presence of nitrous oxide. Laboratory data which he presented substantiated the fact that his method of analysis gives satisfactory results.

Fluid Logging

Robert E. Souther, of Baroid Sales Division, in "Application of Fluid Logging," stated that fluid analysis method of logging drilling wells has been applied under a wide variety of conditions with successful results, and that exact techniques have now been worked out for applying this method under specific conditions. In areas of known production, he said, fluid logging is used to obtain information for use in completing, in workovers, and in plug-back operations. It has also been applied in cases where conditions are such as to make other methods of obtaining similar information hazardous. In exploratory, drilling fluid logging has been used to great advantage to control coring, making unnecessary the taking of a number of negative cores, while indicating all oil and gas shows of importance.

Research in progress at Massachusetts Institute of Technology, reported by Roland F. Beers, is shedding new light on the chemistry of nature dealing with the generation of petroleum in source beds. The study of well-cutting samples of several Paleozoic shales has yielded a method of calculating how much petroleum may have been produced by the interaction of radioactive substance and the organic matter of these shales. The method consists of routine determinations of uranium and thorium in cutting samples by measurement of total beta activity and radium content. Hydrogen and carbon content also are determined and all findings are correlated with each other. The correlations show that relationships exist between uranium content, thorium-uranium ratio and carbon content and that they have real significance in the development and chemical evolution of source beds.

Dr. T. S. Oakwood, of Pennsylvania State College, in "The Origin of Petroleum" stated that methods commonly used by chemists for the preparation of hydrocarbons in the laboratory have little in common with methods that must have been employed by nature in producing mixtures of hydrocarbons in petroleum.

Any theory of the origin of petroleum, he said, must account for these great numbers and large quantity of these natural hydrocarbons. Living organisms produce hydrocarbons during their life processes, he pointed out, but the complexity of the mixtures thus created is not very well understood. In addition, organisms produce many other types of organic compounds besides hydrocarbons, and there is ample reason for believing that some kinds of hydrocarbons are not originated by organic processes at all.

He stated that amounts of organic materials sufficient to account for all the known quantity of petroleum are available in marine sediments related to oil deposits, but offered the opinion that a combination of processes, operating within the geological conditions imposed may ultimately give a logical accounting of all the substances found in petroleum. The establishment of the geological conditions that probably apply to the origin of petroleum has limited the ways in which it could have been formed. These theories must account for: marine origin, moderate physical conditions, wide differences in chemical and physical properties, and widespread occurrence, according to Oakwood.

U.S.G.S. Wartime Activities

William E. Wrather, director of the United States Geological Survey, outlined the wartime activities of the survey, with special reference to the current petroleum exploration in all the large sedimentary basin areas in the United States. His organization, greatly expanded in personnel since the war began, now numbers more than 2450 employees. He mentioned the work being done in cooperation with state geological surveys and many oil companies to work out the fundamentals of the geology, paleontology, sedimentology and stratigraphy of prospective oil territory, with emphasis placed on regional geology.

Wrather revealed that 50 geologists in foreign areas, are supplying emergency information for use by the armed forces, dealing with water supplies, critical and engineering materials, and preparation of topographic and other maps on short notice.

He invited company geologists to make suggestions and criticisms of the petroleum studies that are under way, since the geological survey is anxious to furnish fundamental data needed by companies before detailed, local field work can be done in locating favorable structures for testing.

API Project 43

The geologists heard reports of progress of investigations being conducted at Scripps Institute, Pennsylvania State

AAPG Asks PAW to Relax Spacing Restrictions

Declaring that it is essential petroleum exploration and development be encouraged and that the steel situation has improved, members of the American Association of Petroleum Geologists adopted a resolution at their Dallas meeting requesting the Petroleum Administrator to relax wartime restrictions on well spacing.

Necessity of waiting for approval on applications before drilling operations can be started on locations that conform to state spacing rules but do not conform to provisions of PAO-11 results in delays and rig time and efficiency is lost when well organized crews are not kept in constant operation, it was declared.

Revision of PAW restrictions on well spacing "so that applications and approval will be required only on wells that do not conform to the state spacing orders or wells that are drilled in states which have not established spacing rules" is called for.

College, and Massachusetts Institute of Technology, as Project 43, sponsored by the American Petroleum Institute to obtain authoritative data regarding the origin of oil. Research reports were made by Dr. Claude E. ZoBell, of Scripps Institute; Dr. Thomas E. Oakwood, of Penn State; and Dr. Clark Goodman, of M. I. T.

ZoBell reported accumulating evidence that indicates rather definitely that bacteria and other micro-organisms may play an important role in the genesis, accumulation and migration of petroleum, and that such organic life may be indigenous in the sediments.

Oakwood revealed that except for a few hydrocarbon compounds in gasoline and kerosine fractions there is "phenomenal ignorance" as to the chemical make-up of petroleum, and that only 60 percent of the mixture of compounds in gasoline can be isolated and identified. "Plant and animal life," he said, "may both contribute components to petroleum, and there is little reason for dispute as to which is the primary source. No theory as to the origin of oil can be either proved or disproved on the basis of our present knowledge."

Shepherd outlined methods and techniques that have been worked out for attacking the problem of the influence of radioactivity in the genesis of oil, but said no definite conclusions have been reached.

Well Spacing Factors

Monroe Cheney, of Coleman, Texas, in his paper on "Critical Factors to be Considered in Well Spacing," held that arbitrary rules covering well spacing can not be established because of the great number of variable factors involved. "Except in those few areas where free play and the law of capture prevails there is need of a careful balancing of the factors that promise economy and greatest net return by means of relatively wide spacing, against other factors which indicate possible gains through closer spacing."

"The most fundamental factors," he said, "are geologic, such as the probable character, thickness and depth of the reservoir; the character and amount of the reservoir fluids, their relative freedom of movement to the well; and the type and amount of natural energy available to induce such movement. It seems safe to assume that during the process of accumulation the oil migrated and concentrated in the more connected, permeable parts of the reservoir rock. This basic condition favors wide spacing of wells except where subsequent excessive folding, faulting or cementation may have set up limitations on free fluid movement."

Cheney emphasized that when production begins, other factors arise which call for strict engineering control if high recovery of oil is to be achieved. Rate of production from the oil pool and from individual wells should be coordinated with the rate at which gas or water displace oil, through use of available energy, inherent or applied. Maintenance of a high degree of oil saturation around the producing well avoids serious loss of permeability to oil. The loss of permeability occurs at an accelerated rate as oil saturation decreases and the maintenance of favorable producing conditions and effective differential pressures within the reservoir are much more essential to high recovery than the close spacing of wells, he said.

"Many closely drilled oil pools have been poorly drained," he pointed out, "while examples of high recoveries per acre-foot from efficiently operated fields with relatively wide spacing are becoming increasingly numerous — recoveries being so high in some cases that any added wells would clearly be a waste of money, labor and materials."

The paper by C. W. Tomlinson, on "Well Spacing and Its Effects on Recoveries and Profits," was published in THE OIL WEEKLY, February 21 and February 28.

Likewise, a paper by Stuart E. Buckley, on "Petroleum Reservoir Efficiency and Well Spacing," was published in THE OIL WEEKLY in six installments, in the issues of January 12 through February 14, of the current year.

Two Members Honored

Two charter members of the A. A. P. G. were tendered honorary memberships in the association during a general session held Wednesday in Dallas. The men honored were Dr. William E. Wrather, Director of the United States Geological Survey, and Dr. Charles N. Gould, former state geologist of Oklahoma.

Donald Hughes Elected

The Society of Economic Paleontologists and Mineralogists chose Dr. Donald D. Hughes, of Leland Stanford University, as its president. He succeeds J. Harland Johnson of Golden, Colorado. Hershal C. Ferguson, of Houston, was elected vice president, and Dr. H. B. Stenzel, of Austin, secretary-treasurer.

Coastal API Discussions Center on Production and General Problems

RESERVOIR conditions and performance vied with popular reactions to petroleum problems for the spotlight on the program of the Spring Meeting of the American Petroleum Institute, Division of Production, Pacific Coast District, at Los Angeles March 23 and 24. Speakers were principally from California organizations, with the emphasis being placed on local problems and solutions, although the findings presented are of general application except where predicated on a single, localized condition. Water-flooding, drilling and reservoir performance balanced the program, which, apart from the picture "Victory's Oil," veered from the usual wartime theme of recent API meetings.

Carlton Beal of Richfield Oil Corporation served as chairman and W. L. Jarvis of The Texas Company was in charge of program arrangements. The final address given at the dinner Friday was by J. R. Pemberton, on "What Shall We Do About the Present Oil Situation in California?"

Abstracts of papers presented follow:

P-V-T and Solubility Relations for Natural Gas and Water Mixtures

By C. R. DODSON and M. B. STANDING, Standard Oil Company of California

Pressure-volume-temperature and solubility data are presented to cover mixtures of natural gas and water and two typical oil field brines. The investigations covered pressures from 500 to 5000 pounds, temperatures from 100° to 250° F.; and water or brines having up to 35,000 parts per million total solids.

The work described was to determine answers to such questions as the magnitude of the solubility of natural gas in interstitial water under reservoir pressures, temperatures and water salinities and the change under pressure decrease; the formation volume change in the interstitial water during pressure decline; the compressibility of the saturated interstitial water and its variation with pressure decline; and an investigation as to whether water vapor existent in the reservoir gas phase can account for water production from "clean" wells or high gas-oil ratio wells.

Data presented permit estimations from which the four questions may be answered. The compressibility and formation volume of the gas-saturated interstitial water are given as functions of the gas solubility.

Development and Production Performance of the Porter Reservoir, Aliso Canyon Field

By G. C. PFEFFER and A. C. TUTSCHULTE
Tide Water Associated Oil Company

A summary of the development and production history of the Porter Zone, Aliso Canyon Field, with a proven area of about 150 acres, is presented. The structure in which oil has accumulated is of unusual complexity as oil is found in sediments overridden by the Santa Susana thrust fault with surface and subsurface structure exhibiting no relationship.

Development of the field has been influenced primarily by the rugged surface topography and unusual hardness of sediments, which have rendered drilling more expensive than general California experience would suggest, and also by rapid lateral gradation of oil-bearing sediments which, together with the hidden type of structure, have rendered drilling hazardous. The oil gravity, the producing gas-oil ratio, formation pressure, and formation temperature are all lower than is common in Southern California fields of comparable depth. It is believed that oil is being displaced by a combination dissolved-gas drive and partial water drive. In production the primary objective has been to obtain a maximum utilization of reservoir energy by varying withdrawals on the basis of the reservoir pressure pattern.

Determination of the Interstitial Water Content of Oil and Gas Sand by Laboratory Tests of Core Samples

By J. J. McCULLOUGH and P. H. JONES, Union Oil Company of California

Two methods for estimating the interstitial water content in sands by laboratory tests of core samples are presented; one involving the application of gas pressure, the other utilizing centrifugal force.

Results of tests using these methods on drill cores are compared with the water content of the cores obtained by distillation. Correlation of results indicates that the distribution of interstitial water in a reservoir may be estimated closely enough for production

purposes from results obtained in such laboratory tests.

Drilling Fluid for the Completion of Shallow Wells
By W. H. FERRAND and W. A. CLARK
The Texas Company

The damaging effect of water filtrate from drilling mud on oil zones having low formation pressures and permeabilities as high as 15 darcies or more has long been suspected, despite a relatively high percentage of completions in many fields where these factors hold. This completion difficulty is discussed in a review of California fields in which the condition has been met and overcome.

While most of the evidence of filtrate alteration of production characteristics comes from deep wells, the effect of this phenomenon on shallow wells has long been under investigation. The intensification of the shallow drilling campaign on the Pacific Coast in 1943 brought this subject more forcibly to the attention of the industry and gave widespread value to the results. The effect of "water block" in shallow zones was definitely indicated in a group of wells at West Coalinga.

Use of oil-base mud appears to overcome this so-called water block. Evidence indicates that hydrolized starch may also improve the mud quality by lowering and minimizing the water loss. Whether a low water loss is a sufficient answer remains to be proven.

Oversized hole, caused by the action of water filtrate on shales, would indicate that this action often is prevalent in shale partings of producing oil zones. Low-water-loss mud should be used throughout the drilling of a well and particularly when penetrating most oil zones. Oil is stated to be a good completion fluid only if it does not affect the shale and cause it to slough or run. Salt water is apparently less harmful to oil than is fresh water. A warning that careful attention be given the fluid used in completing shallow zone producers is sounded and the conclusion is emphasized that favorable results of fluids other than water-base muds are indicated by many examples of good well completions, but final evaluation must be deferred for further study.

Controlled Water Flood Development and Operations in the Mid-Continent
By R. C. EARLOUGHER
Geologic Standards Company

The author presented an exhaustive review of development operations and control in use on 700-foot flood in Eastern Kansas. In all more than 200 flood acres are represented, part of which was developed with little engineering data and control while in the latter part of the development program considerable detailed engineering was utilized.

Development and operating methods are described and a comparison drawn between oil recoveries on three adjoining leases. Comparisons cited show anticipated ultimate oil recovery by the three, and the anticipated gain expected through use of improved methods.

Deep flooding has not been in use long enough and on broad enough scale to tell whether or not such operations are profitable. However, initial results cited are favorable enough to promote additional projects. Deep flooding with wide well spacing is physically possible and feasible and the ultimate answer of success and failure depends on cost.

Load Problems of a Natural Gas Utility
By H. B. GEORGE
Southern California Gas Company

Discussing the effect of a winter cut in gas available to industrial plants in the area served by his company, the author shows that the principal or primary responsibility of the gas utility company is to supply the demand of customers who can use no other kind of fuel. Industrial customers whose supply comes largely from surplus gas must yield to the demand of other users when weather or production factors reduce the amount of surplus gas available.

Extremely wide variations exist between minimum and maximum firm load and quick changes in weather during the winter season cause violent fluctuations in the volume of surplus gas available and thus may require frequent, and sometimes extended, curtailment of industrial customers.

Oil operators were urged to engage in repressuring or pressure-maintenance programs to help during periods of peak demand, this by discontinuing injection temporarily and diverting gas thus made available to market.

People and Petroleum
By ROBERT E. ALLEN
American Petroleum Institute

Taking as his theme public good will toward the industry, the speaker emphasized that members of the oil industry are outnumbered 100 to 1 by consumers of its products, and that it would be out of the question to attempt to wage a pressure crusade. A continuous missionary campaign, coupled with exemplary performance, offers the best means of gaining and maintaining the friendship of the public.

The oil-company employee can and should be a potent factor in promoting this good will for, as the oil industry is outnumbered 100 to 1 by the consuming public, so is the executive by the rank and file of the company. Both executive and employee must be alert to at least six public groups; the company's bond and stockholders, other employees and fellow-workers, the company's customers, its competitors, various and ramifying offices of government, and the general public. Not one of these groups can be long neglected or overlooked without courting trouble, and the industry, no matter how essential its products and important its place in the war machine, is successful and a value to the nation in proportion to the scope of its harmony with each of the groups listed.

Should Oil Developments on the Public Domains Be Encouraged?
By R. M. ALLAN, JR.
Superior Oil Company

Oil development on the public domain should be encouraged particularly at this time but it is being impeded and discouraged by Secretary Ickes although as PAW head he is doing everything in his power to encourage prospecting and exploratory work. Is it a coincidence that he has recently proposed oppressive regulations governing operations on the public domain and that they were proposed at the same time that the PRC was formed to put the government into the oil business?

A policy of conserving in the ground for the next war the gas and oil resources of the public domain not only damages privately-owned oil and gas fields but may also be to handicap private industry in its operations on public lands so that some support can be obtained for government development there.

Corrosion Engineers Program Is Announced

The first annual convention of the recently organized National Association of Corrosion Engineers will be held in the Rice Hotel, Houston, April 10 to 12.

Monday afternoon's session will cover corrosion studies with description given of the methods developed for inhibiting or mitigating corrosion loss. A symposium on internal corrosion of tubing in gas wells. Tuesday will hear six papers on various phases of tubular well equipment corrosion. Pipeline corrosion will be discussed Tuesday afternoon, the session dealing with surface and sub-surface equipment. Morning and afternoon sessions Wednesday will be general meetings, a varied program dealing with corrosion problems, detection and prevention being scheduled. The meeting will close Wednesday night with a banquet.

Committee chairmen are W. F. Rogers, The Texas Company, Houston, arrangements; O. C. Mudd, Shell Pipe Line Company, Houston, membership; G. R. Olson, United Gas Company, Shreveport, program; and F. J. McElhatton, Panhandle Eastern Pipe Line Company, Kansas City, publicity. R. A. Brannon, Humble Pipe Line Company, Houston is president.

Program Announced for Eastern API Meet

A Wartime Conference will be held at the spring meeting, Eastern District, API Division of Production, in Columbus, Ohio, April 13-14, W. E. Ferguson, Ohio Fuel Gas Company, Columbus, chairman. Some of the papers scheduled are "Oil Around the World," by L. G. Huntley, Huntley & Huntley, Pittsburgh; "Some Postwar Aspects of the Oil Industry," by S. A. Swensrud, Standard Oil Company, Cleveland; "Secondary Recovery," by E. A. Booth, Bradford, Pa.; two aspects of portable compressors by P. E. Dufendach, Kentucky-West Virginia Gas Company, Ashland, Ky., and G. W. McKinley, Hope Natural Gas Company, Clarksburg, W. Va.; "Methods of Sand Study in the Appalachian Basin" by R. E. Sherrill, University of Pittsburgh, and D. A. Busch, Pennsylvania Geological Survey; "A Review of Developments in the Southeastern United States," by Hugh Brankstone, Gulf Oil Corporation, Pittsburgh; "The Present and Future Trends in Automotive Fuels," by C. E. Boord, Ohio State University; "Some Recent Advances in Well Treating Methods and Equipment," by P. E. Fitzgerald, Dowell, Inc., Tulsa and "Gas Storage," by E. G. Dahlgren, Interstate Oil Compact Commission, Oklahoma City.

Mid-Continent API to Meet in Tulsa in May

The spring meeting of the Mid-continent District, API Division of Production, will be held in the Mayo Hotel at Tulsa, Oklahoma, May 25-26. The program will include papers on drilling and production topics, as well as a discussion of activities from a government representative.

H. W. Ladd, Stanolind Oil & Gas Company, is general chairman of the section and J. R. McWilliams, vice president of Carter Oil Company, is general chairman for arrangements.

In WAR . . .

. . . in Peace

HIGH SPEED DRILLING EQUIPMENT

by

Geo. E. Failing Supply Co.

ENID, OKLAHOMA HOUSTON, TEXAS

Crude Runs to Stills Exceed Current Production; Shortage Threat Continues

The threat of more pronounced shortages of petroleum products was emphasized in statistics of the industry for the week ended March 18. Crude runs to stills were increased further, after having been stepped up the previous week, and were close to the all-time peak reached early this year, meanwhile substantially exceeding current production of crude. Consequently, production of all major products was increased. But it still was necessary to draw on stocks of gasoline and both light and heavy fuel oils in meeting demand. The requirements of gasoline perhaps were abnormally boosted temporarily by eleventh hour filling of gasoline tanks before reduction of the value of ration coupons, but aside from that consideration, demand was heavy for gasoline as well as for the other products.

Crude runs to stills averaged 4,437,000 barrels daily, up 50,000 from the previous week and only 16,000 barrels a day short of the record high. They were 845,000 barrels a day or 23.5 percent greater than in the corresponding week a year ago.

Production of crude averaged 4,385,000 barrels daily, up 4000 from the week before and within 51,000 barrels of the all-time peak reached last November. It was 481,000 barrels a day or 12.3 percent greater than in the like week last year.

Gasoline production, including natural blended at refineries, averaged 1,910,000 barrels per day in the week of March 18, up 46,000 from the week before and 452,000 barrels a day or 30.9 percent above output in the corresponding week last year. However, the output was not sufficient to permit any accumulation of stores, as is customary for this time of the year, and on the contrary there was a withdrawal from storage averaging 54,000 barrels daily. At the end of the week the stocks of finished and unfinished gasoline stood at 86,185,000 barrels. That was 8,292,000 barrels or 8.8 percent less than the 94,477,000 barrels on hand March 20 last year. At the beginning of the week the inventory had been only 8.2 percent under the year-ago trend, indicating further deterioration of the relative inventory position during the week.

Gasoil and distillate fuel production averaged 657,000 barrels daily, up 50,000 from the week before and 91,000 barrels daily or 16 percent above output in the like week last year. Although it is customary to draw on storage at this time of the year, the draft of 128,000 barrels daily for the week was comparatively large, and the stocks of 31,808,000 barrels on hand March 18 were 1,125,000 barrels or 3.4 percent less than the inventory held a year previously.

For the second week in a row, production of residual fuel oil was expanded, having averaged 1,328,000 barrels daily. That was 71,000 barrels a day more than production the previous week and 306,000 barrels per day or 30 percent more than output in the like week last year. Nevertheless, stocks were drawn upon to the extent of 50,000 barrels daily, having been lowered to 51,010,000 barrels. That amount was 17,289,000 barrels or 25.3 percent less than the 68,299,000 barrels held on March 20 last year.

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED March 25	March 18
Alabama	25	25
Arkansas	79,300	79,300
California	830,050	827,300
Long Beach	29,950	30,100
Midway-Sunset	56,600	56,450
Kettleman Hills	42,550	43,050
Wilmington	102,500	103,000
Rest of State	598,450	594,700
Colorado	7,850	7,700
Florida	45	45
Illinois	216,800	217,500
Salem	26,500	26,100
Louden	35,200	35,600
Other New Pools	144,100	144,800
Old Pools	11,000	11,000
Indiana	15,000	15,300
Kansas	277,700	287,700
Kentucky	24,500	24,950
Louisiana	360,500	360,550
North Louisiana	76,500	76,550
South Louisiana	284,000	284,000
Michigan	53,000	53,500
Mississippi	42,400	39,100
Missouri	100	100
Montana	23,320	23,859
Nebraska	1,260	1,260
New Mexico	113,000	113,000
New York	13,300	13,150
Ohio	8,800	8,500
Oklahoma	329,600	329,500
Oklahoma City	46,300	46,600
Seminole Area	67,550	69,600
Rest of State	215,750	213,300
Pennsylvania	40,000	38,700
Tennessee	30	30
Texas	1,863,300	1,863,000
Upper Gulf Coast	513,750	513,900
East Texas Field	365,100	365,000
Rest of Eastern Texas	116,500	116,400
Lower Gulf Coast	197,000	196,900
Southwest Texas	74,700	74,650
South Central Texas	20,000	19,800
West Texas	341,000	341,000
North Texas	142,450	142,550
Panhandle	92,800	92,800
Utah	12	12
West Virginia	8,300	8,300
Wyoming	92,800	92,500
Total United States	4,400,992	4,404,881

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Week Ended	Runs to Stills Barrels Daily	Week Ended	Crude Stocks Barrels	Week Ended	Gasoline Stocks Barrels	Week Ended	Gasoil and Distillate Stocks Barrels	Week Ended	Residual Fuel Oil Stocks Barrels	Week Ended
Highs:												
1941	4,337	11-22	4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	49,861	11-14	95,857	1- 3
1943	[1]4,436	11-13	4,331	12- 4	245,752	5-29	94,159	3-20	46,187	11-27	72,881	1- 2
1944	4,423	2-26	[1]4,453	1- 1	240,992	1- 1	86,559	3-11	42,310	1- 1	57,330	1- 1
Lows:												
1939	[3]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,381	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	68,182	10-16	30,732	4- 3	57,596	12-25
1944	4,357	1- 1	4,228	2-12	236,748	3-18	76,302	1- 1	31,808	3-18	51,010	3-18

TRENDS OF 1943 AND 1944

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1943:									
January 2	3,871	3,734	233,938	10,957	82,420	4,285	42,913	7,683	72,881
January 30	3,826	3,698	233,863	10,339	88,830	3,888	37,057	7,452	70,763
February 27	3,873	3,709	235,217	10,566	93,157	4,230	32,939	7,839	70,140
March 27	3,896	3,742	239,126	10,231	94,079	3,541	30,980	8,018	67,938
April 24	3,913	3,737	242,035	10,583	91,001	3,954	31,142	8,168	67,455
May 29	3,970	3,679	245,752	10,656	83,937	3,798	32,274	7,672	67,682
June 26	3,955	4,015	242,657	11,092	79,589	3,876	34,044	8,126	67,960
July 31	4,133	3,788	238,420	11,127	74,977	3,765	36,363	8,478	66,877
August 28	4,196	4,227	236,170	12,420	72,525	4,351	37,928	8,732	67,250
September 25	3,344	4,156	233,013	12,206	70,024	4,608	40,328	8,560	66,659
October 30	4,383	4,176	237,219	12,813	69,297	4,642	44,591	7,968	63,833
November 27	4,414	4,261	239,761	12,638	69,980	4,379	46,187	8,633	62,143
December 25	4,363	4,185	241,310	12,597	74,024	4,457	43,791	8,689	57,596
1944:									
January 1	4,357	[1]4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,330
January 29	4,409	4,359	240,251	13,427	81,085	4,054	37,266	8,889	52,857
February 5	4,400	4,324	239,145	13,192	81,784	4,138	36,023	9,087	52,734
February 26	4,423	4,377	237,137	13,183	85,248	4,558	33,766	8,952	51,387
March 4	4,413	4,344	237,763	13,267	86,091	4,513	33,145	8,590	51,175
March 11	4,381	4,387	236,748	13,068	86,559	4,243	32,705	8,796	51,362
March 18, 1944	4,385	4,437	.....	13,393	86,185	4,596	31,808	9,293	51,010
March 20, 1943	3,904	3,592	[4]236,655	10,228	94,477	3,956	32,933	7,151	68,299
Change:									
In week	+4	+50	−1,015	+325	−374	+353	−897	+497	−352
In year	+481	+845	+93	+3,165	−8,292	+640	−1,125	+2,142	−17,289
In year	+12.3%	+23.5%	+0.04%	+30.9%	−8.8%	+16.2%	−3.4%	+30.0%	−25.3%

[1] All time peak. [2] Lowest since April, 1922. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent States. [4] Stocks, March 13, 1944.

IS IT TOO EARLY FOR *Postwar Planning*?

Our first job is to win the war, but is it too early for postwar planning? The answer is an emphatic **NO.** In the postwar period which lies ahead, many new problems will have to be solved and now is the time to begin tackling some of them. The friendly assistance, advice and counsel of this bank, so long identified with the Oil Industry, may be of help to you in solving some of your postwar problems.

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Oil Deliveries to East Reach High Peak

Deliveries of crude oil and products to the East Coast during the week ended March 18 hit an all-time high of 1,790,690 barrels daily. It was reported by PAW March 24. The previous high record was 1,710,000 barrels a day, set during the week ended last December 4.

Deliveries by tank car, averaging 757,613 barrels daily, showed an increase of 2.9 percent over the 736,242 barrels a day of the preceding week, PAW said. Present indications, Deputy Administrator Davies reported, are that, barring emergencies now not foreseen, the East Coast will finish the heating season without difficulty. "That we have been able to go through the heating season with no serious supply dislocations except for the purely local shortage that is inevitably developed is due almost entirely to the vigorous, tireless work of the petroleum industry transportation groups and the government agencies which working in complete cooperation with each other were able time and again to pull out of what threatened to be serious breakdowns in either the supply or distribution systems," Davies said.

Davies pointed out that more oil was delivered to the East Coast than was brought in before the war by the great tanker fleet.

Stocks of all products are adequate at the moment to meet current ration requirements, PAW said, but attention now must be directed to building up heating-oil inventories against next year while at the same time meeting increased gasoline demand.

West Texas-Oklahoma Line to Handle Capacity

Preliminary test runs on Stanolind Pipe Line Company's 383-mile 16-inch oil line from the West Texas permian basin to Drumright, Oklahoma, assures the operation of the line at capacity load of 65,000 barrels daily beginning April 1. The line will deliver 14,000 barrels daily to connecting lines at Drumright, and store the remainder in approximately 8,000,000 barrels of available tankage in the Cushing-Drumright district until more lines are assigned to handling sour crude to Middlewest and Eastern refineries and the installation of a tank car rack at Drumright. This rack is expected to be in operation early in May, and will replace current shipments from a rack operated by Atlantic Pipe Line Company at Midland, Texas.

California Oil Line

Standard Oil Company of California is completing a pipe line to serve the Riverdale-Helm fields of Fresno County. The new line, comprising 30½ miles of 6-inch and 12 miles of 4-inch pipe, runs southwesterly to connect with the company's gathering line from the extension of Coalinga Nose field. It is expected to be ready for service within the next two weeks.

Oklahoma Hearing

Oklahoma State Corporation Commission has set March 29 as the date for considering market demands and to fix the state and pool allowables for April and May. Hearing is scheduled at 11:00 a.m., Oklahoma City.

U. S. Field Operations

Illinois Basin

Spring Floods Delay Work in Several Areas

Spring rains and flood waters in the Ohio and Wabash river areas continued to hold up operations in the Illinois basin this week. Probably the hardest hit were the Uniontown pool in Kentucky where floods have forced 10 operations to shut down, and the East Inman pool of Gallatin County, Illinois, where 8 operations are marking time.

Bond County: Operators are focusing more attention on the new Beaver Creek pool in Bond County. L. L. Benoist's Wrone 1, NE NE SE 36-4n-3e, has encountered considerable gas in Cypress sand at 1080 feet and is shut down for repairs at 1141 feet. Wells in the area are producing from the Benoist sand.

Montgomery County: George Cassens is preparing to test a show of oil in Pottsville sand, encountered at 635 feet, at Keuhne 1, NE NW NW 21-8n-5w, in wildcat territory. Hole was drilled to 743 feet and plugged back to the Pottsville.

Wayne County: The Texas Company's Draper 1, N½ NW SW 8-3s-6e, in the Mayberry pool, found the Devonian lime at 5169 feet and is drilling below 5340 feet without having encountered a show of oil. The well is the first substantial test of the deep lime in the area.

In the new extension area of the Mills Shoals pool in southeast Wayne County, Robinson & Puckett have completed Felix 2, NW NE SE 12-3s-7e, on pump for 267 barrels of oil in 24 hours from McClosky lime after acid treatment. Wells in the new area are producing from Aux Vases sand as well as the lime.

Hardin County: Northern Ordnance's Fricker 1, a wildcat test in SW SW SE 30-11s-8e, once drilled to the Trenton lime and found dry at 2345 feet, is drilling below 2530 feet headed for St. Peter sand.

Jefferson County: The Aux Vases sand holds production prospects in the Farrington pool, now producing from McClosky lime, as a result of tests at Gulf Refining Company's Donoho 1, NW NE NW 23-1s-4e. With the well running structurally higher than at neighboring tests, nearly three feet of saturation was recovered in a core of Aux Vases at 2720 feet.

Indiana

An extension and a new pay horizon for the Upton pool of Posey County was recorded at Ashland Refining Company and Ledbetter's Mann 1, NE NE NW 5-7s-14w, ¼-mile south of the pool. The well pumped 80 barrels of oil in 19 hours from Waltersburg sand at 2122-37 feet. Production in the pool proper is from Tar Springs and Aux Vases sand.

Kentucky

The Texas Company and Ashland Refining Company's Culver 1, 12-P-20, 2½ miles northeast of production in the Uniontown pool, is still shutdown because of high water. It is waiting to drill plug to test good McClosky lime saturation which on preliminary tests showed for an extension of the Uniontown pool or a new oil pool.

Oklahoma

East Anadarko Basin Deep Test Producing Oil

A deep strike along the east rim of the Anadarko Basin in McClain County seems assured as Carter Oil Company's Cottingham 1, C SE SE 4-7n-3w, near the Washington community, flowed 7 barrels of fluid an hour. 85 percent oil on initial test of the second Wilcox through perforations at 10,625-40 feet. Flow was through ½-inch tubing choke. Pay was topped at 10,631 feet with oil stains reported to 10,710 feet. Testing continues with possible re-perforation of the horizon to take in an additional 10 feet. Hole was drilled to 11,209 feet, plugged back and casing set at 10,781 feet. The wildcat establishes deepest production in Oklahoma.

Encouraged by the showing of Cottingham 1, the company resumed work on Johnson Ranch 1, C SW NE 13-8n-4w, 7 miles northwest, which had been shut down at 10,536 feet. Although no shows were logged in the Second Wilcox, plans are to test that horizon which was topped at 10,462 feet. Hunton lime at 9500-26 feet showed oil stains.

A 57.71-acre tract in McClain County, 14 miles north of Carter Oil Company's Wilcox tests brought $4488.11, paid by Phillips Petroleum Company during a sale of Five Civilized Tribes lands at Muskogee, March 21.

Noble County: Barnsdall Oil Company appears to have a pool opener south of Otoe. Casing was being run in Johnson 1, NW SW NE 35-22n-1e, after a core at 4647-52 feet recovered 2½ feet of sand with good stains and odor, in Second Wilcox. Hole will be drilled deeper before testing.

Hughes County: Creekmoore-Rooney's Dannenberg 1, C NW NW 35-9n-10e, an original Gilcrease sand gas well, has opened deeper pay in the Cromwell zone, flowing 7½ barrels of oil and 2,500,000 feet of gas on initial test from 3168 to 3170½ feet, total depth. The well was deepened from 2845 feet where it had been producing from the Gilcrease.

Carter County: Samedan Oil Company's Revelle 1-A, SE SE SE 21-3s-2w, wildcat west of the Wheeler pool, has plugged back to 5200 feet for a test of the Pennsylvanian. Total depth is 6510 feet.

Coal County: Phillips Petroleum Company and Skelly Oil Company's Payte 1, C NE 28-2n-9e, wildcat near the Centrahoma field, was coring below 5020 feet after a drill-stem test at 4979-5020 feet developed 8,779,000 feet of gas. Cromwell was topped at 4978 feet and Union Valley at 4950 feet.

Logan County: Phillips Petroleum Company was coring below 6000 feet in Logan (State) 1, NE SE NW 16-15n-2w in the Pleasant Valley area for a test of the Wilcox after passing saturation in the Bartlesville zone.

Kansas

Stafford County Well Best In Week of Good Results

Three oil discoveries and extensions to old pools featured drilling activities last week in Kansas. W. P. Faulkner's Welch 1, NW SE 18-21s-12w, Stafford County, completed for 308 barrels of oil per day from 9 feet of pay in Arbuckle topped at 3554 feet. Acidized with 2500 gallons the well came in flowing. Designated as the James field, the discovery is two miles northwest of the Mueller pool. Total depth is 3563 feet.

Barber County: Dickey Oil Company's Mills 1, C SE SW 32-31s-14w, opened a new area 1¼ miles west of Deep Rock Oil Corporation's Skinner 1, recent discovery in Section 29. The well flowed 24 barrels of oil and 3,000,000 feet of gas the first 2 hours from the Douglas which was shot and acidized at 4023-35 feet. Total depth is 4842 feet in Simpson.

Reno County: New Mississippian pay in a wildcat 14 miles west of the Hilger pool, a Viola lime producer, was assured as Ohio Oil Company cored good saturation in Collingwood 1, Section 12-26s-7w, in 5 feet of pay topped at 3702 feet. It is shut down at 3715 feet for repairs.

Barton County: Helmerich & Payne has extended the Merten pool ½ mile south with Willcutt 1, NWc 15-19s-15w, which tested 8 barrels of oil per hour in 13 hours on swab from Reagan sand. Total depth is 3586 feet with the last 10 feet of open hole being tested.

Russell County: A new discovery 2½ miles northeast of the Hall-Gurney pool loomed as Bridgeport Oil Company's Beisel 1, SWc NW 15-14s-12w, swabbed 53 barrels of oil in 8 hours on initial test. Arbuckle was topped at 3265 feet and the well carried to 3284 feet total depth where it was acidized.

Mid-Plains Oil Company extended the Driscoll pool ¾ mile east after Chegweidden 1-B, C N SE SW 29-15s-11w, flowed 100 barrels of oil per day from the Gorham sand. Pipe was set at 3233 feet and a 26-foot section to 3259 feet, total depth, was tested.

West Texas

Pecos County Wildcat Making Record Depth

A new world record for drilling depth is due for West Texas this week since Phillips Petroleum Company's Ada Price 1, southeastern Pecos County wildcat, had progressed to within 164 feet of the record in drilling Simpson shale and sand section at 14,840 feet with the Ellenburger as its next objective. This prospect has been making comparatively fast drilling time since installing a heavy company-owned rotary at 13,027 feet late in January. It was started in August, 1942, and is carrying open hole below 8⅝-inch casing seat at 6901 feet. Possible gas production was passed up without a test in Pennsylvania at 11,555-11,561 feet with an increase at 11,645

feet. The current depth record was established in California by Continental Oil Company in 1938, and the production depth record by Union Producing Company and Fohs Oil Company's Fitzpatrick-Vizard 1, Delarge field, Louisiana, a gas-distillate well from perforations at 13,475-13,490 feet.

Standard Oil Company of Texas' Trees 2, C NW SE H&GN 27, Block 8, scheduled deep test and 4 miles southwest of Netterville pool, nearest production, required heavy rotary mud to prevent a gas blowout from sand at 2406-17 feet. The company's Mac-Der Company 1, Lease 4, new discovery 6½ miles south of the Owego pool, tested 10,900,000 feet of gas daily on 9/16-inch tubing choke after acidizing perforations at 4706-30 feet, having plugged back from granite at 5313 feet. Humble Oil & Refining Company's Wilson 1, north offset to this discovery gasser, was drilling at 3010 feet. Bryce McCandless et al's Cordova-Union (Gulf) 1, which opened the Owego pool last November with a flowing well from Ellenburger perforations at 4012-27 feet, has developed water intrusion and ceased its flow. This well has not been officially completed due to its isolation from a pipe line. Magnolia Petroleum Company et al's Lemar 1-A, south offset, was drilling at 2265 feet, and Shell Oil Company's Cordova-Union 1, east offset to the discovery, was drilling at 2850 feet.

Winkler County: Magnolia Petroleum Company's Walton 234, ¾-mile northwest of its Kermit-Ellenburger discovery, entered Ellenburger near the 10,700-foot level, estimated 233 feet low, and was coring below 10,706 feet. In the Keystone deep area, Sinclair Prairie Oil Company's Walton 4-A, second Ellenburger producer, flowed 418 barrels of oil natural on 6-hour potential test through ½-inch from perforations at 9610-60 feet. Amon G. Carter and Pure Oil Company's Walton 3-C, north offset to their discovery, was running pipe to 9570 feet, or 50 feet below the gas-oil contact, after showing for a flowing well through tester at 9676-91 feet. In the Wheeler-Ellenburger field, Stanolind Oil & Gas Company and Shell Oil Company's Wheeler 1-A, ½-mile west of their discovery, prepared to perforate with pipe at 10,723 feet, 2 feet off bottom. This structurally low well logged only 38 feet of Ellenburger before entering water at 10,680 feet. The partnership's Blue 2, south outpost, entered the McKee zone at 9995 feet, 16 feet low, and was drilling at 10,345 feet. Mid-Continent Petroleum Corporation's Wheeler 1, second completion for the field, made 1800 barrels of 46-gravity oil on potential test through 36/64-inch from perforations at 10,670-10,710 feet.

Reagan County: Amerada Petroleum Corporation's Hickman 2, northwest edge of the Barnhart field, recorded high structural position in logging base of black shale at 8790 feet with elevation of 2767 feet, but the upper pay, topped at 9008 feet proved subnormal in porosity in drilling Ellenburger dolomite to 9067 feet. It will be deepened to the lower pay.

Andrews County: Stanolind Oil & Gas Company's Logsdon 1, C SE SE PSL 5, Block A-32, logged adequate oil saturation in the Tubb zone of the Clear Fork in drilling to 7010 feet to provide a 1⅛-mile northwest extension to the Fullerton field, and to virtually assure the linking of the latter with the Union 3-well pool, situated on a geological strike 3½ miles northwest. Logsdon 1 correlates favorably with nearest producers in the two areas in logging top of San Andres at 4390 feet; San Angelo at 5580 feet and first Clear Fork at 6000 feet with an elevation of 3347 feet. The Fullerton field is the largest high-gravity sweet-oil area in the Permian Basin, and if it is united with the Union pool the combined producing area will exceed 10 miles in length along a northwest-southeast trend, with maximum width exceeding 4 miles.

Magnolia Petroleum Company's Bitler-Lowe 1-A, C SE SE PSL 9, Block A-32, is expanding production ½-mile in logging top of pay at 6935 feet with elevation of 3333 feet, then halted at 6939 feet to set pipe.

The Texas Company's Pattillos 1, pending discovery in the Shafter Lake area, Andrews County, flows small heads of oil daily after 420-quart nitro shot at 4280-4380 feet, total depth 4414 feet, while awaiting machine to cleanout shot cavings. This wildcat is producing from Grayburg and also the San Andres, which was topped at 4315 feet with elevation of 3218 feet.

Crane County: Magnolia Petroleum Company's Lea 10, south offset to prolific oil producer from McKnight zone in the northeast portion of the Sand Hills field, tested 6,000,000 feet of dry gas on 1-inch choke after using 3500 gallons of acid through perforations at 3125-40 feet.

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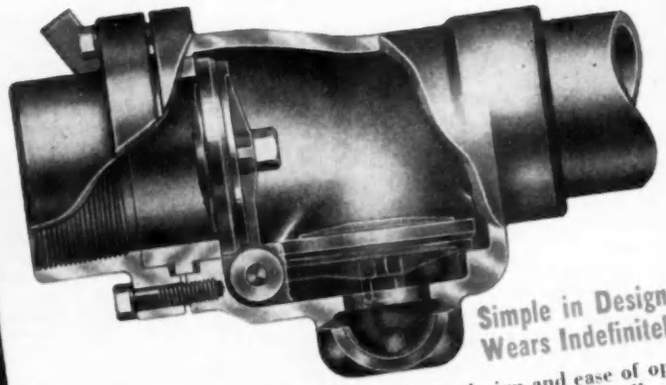

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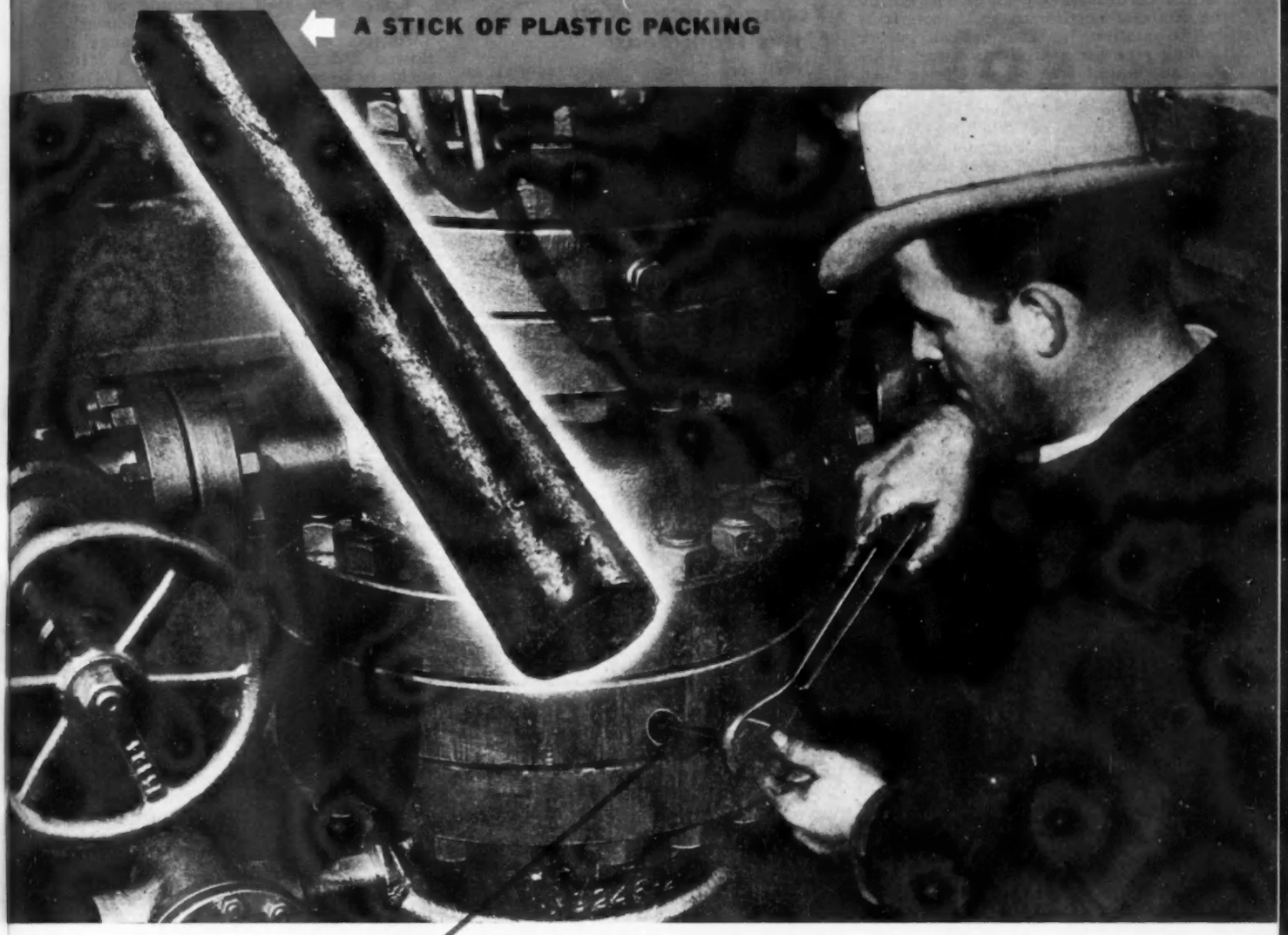

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East Texas

Smith County Well Promises Gas-Distillate

Phillips Petroleum Company's McMinn 1, six miles south of Tyler, is rated as a potential gas-distillate discovery for the basin sector of Smith County, with an aggregate of more than 70 feet of broken pay logged in coring the Rodessa section to 9920 feet. It is due to continue to Travis Peak before landing pipe for a production test. This wildcat showed free oil in Upper Glen Rose, topped at 7765 feet. Sun Oil Company's Patterson 1, prospective Rodessa oil strike for the Sand Flat pool, tested brackish water with nominal show of oil and gas from perforations at 9349-68 feet. This zone has been cemented to perforate higher.

Bobby Manziel et al's Morrison 1, eastern Smith County wildcat, is awaiting orders after showing water in Paluxy section, topped at 5366 feet and is bottomed in Glen Rose at 5769 feet.

Smackover Tests: Humble Oil & Refining Company's Hague 1, Franklin County, recovered 4890 feet of salt water on drill stem test at 11,304 feet in Smackover, topped at 11,239 feet, and was drilling lime at 11,405 feet. In Hunt County, the company's Anderson 1, Juliet Porter survey, entered the Cotton Valley at 5515 feet, and was drilling at 6090 feet.

Camp County: Mid-Continent Petroleum Corporation's McGahee 1, three miles northwest of Pittsburg, retained its favorable structural position in entering Upper Glen Rose at 6060 feet, and was drilling at 6820 feet. Tide Water-Seaboard Oil Company's Roberts 1, Center Point area, is awaiting orders at 7970 feet.

Wildcats: In Henderson County, Delta Drilling Company's Pecan Nursery 1, Chandler area, was drilling at 8940 feet, having logged first anhydrite at 8495 feet. Sun Oil Company and Magnolia Petroleum Company's Roosth-Genecov 1, six miles northeast of Cayuga field, was drilling at 5745 feet, having logged Austin chalk at 5380-5690 feet for unusually low structural position. In Anderson County, Magnolia Petroleum Company's Horwitz 1, projected Travis Peak test for the east side of the Concord structure, listed Pecan chalk at 3596-3735 feet, and was drilling shale at 4495 feet.

Rusk County: The Texas Company is to make a second try for Lower Trinity production on its Tatum block, having moved in derrick for Harris-Turlington 1, J. Foulks Survey, 2 miles north of Tatum. The company's Christian 1, 3 miles west by south of Tatum, was abandoned last December at 7123 feet in Travis Peak. Sinclair Prairie Oil Company's Markey 1, 6 miles west by south of Tatum, was drilling sandy-lime at 6931 feet without shows in the Rodessa section.

Limestone County: Zephyr Oil Company's Nussbaum-Scharff 1, 3 miles west of Groesbeck, tested water in perforations at 4742-4800 and 5040-90 feet in Rodessa, and will squeeze and reperforate.

Harrison County: Hunt Oil Company moved in for a 6500-foot test at Bailey and Martin 1, Martin survey, in Darco community 11 miles south of Marshall, on a block of 10,000 acres.

Panola County: Roger Lacy's Cameron 1, outpost of the Carthage field in LaGrone survey, was reported to have logged a 40-foot show in Travis Peak. Hole was bottomed at 6800 feet and is being tested for completion.

North Texas

Young County Well Flows from Bend

Northern Young County scored an oil discovery from Bend lime when Kerlyn Oil Company and Phillips Petroleum Company's W. W. Cope 1, SWc TE&L 1475, 7½ miles southeast of Olney, made a steady flow of oil within 9 minutes after using tester at 4388-4428 feet in Bend, topped at 4381 feet. Additional cores established the base of the oil saturation at 4432 feet, followed by dry lime to 4437 feet, where operations were halted to set pipe for completion. This strike is 3¾ miles northwest of the partnership's 2-well Garvey pool in the same horizon, but they involve separate structures.

Cooke County: Northern Ordnance's Lindsey 1, northeast offset to its 4300-foot Strawn discovery for the Woodbine pool, established its fourth probable oil producing sand when drill-stem test at 4107-16 feet yielded 1096 feet of oil. It will be carried to the discovery pay before running pipe. The company is starting a wildcat along the geological strike to the northeast, and Dick Andrade et al have contracted for a Strawn test on a block to the west of Woodbine.

The Texas Company's H. H. Moss 1, Hiram Walker Survey, 4 miles southwest of Woodbine, showed heavy black oil in sand at 1622-29 feet, but drill-stem test at 1620-32 feet yielded salt water. More shows were logged at 1647-60 and 1738-41 feet. The test was drilling shale at 2120 feet.

Clay County: Three tests have been assigned to the Wynn area as a sequel to completion of 2 big wells. Sinclair Prairie Oil Company's Spikes 1, is rated at 3022 barrels of oil and 4,250,000 feet of gas initial on natural test through 1-inch from Mississippian perforations at 6175-6250 feet. The company will drill west and south offsets. Shell Oil Company's Harris 1, west offset to its discovery, rated at 2520 barrels initial on ¾-inch choke after using 2000 gallons of acid in open hole at 6220-99 feet, and rig was skidded for drilling of Wynn 2. H. F. Wilcox Oil & Gas Company and Continental Oil Company's Scaling 1, 3½ miles by east of the Watson field, yielded only small amount of oil-cut mud in using tester in Ellenburger at 6037-6156 feet. It is to be deepened to water. Oil saturation in Basal Bend at 5564-78 feet probably warrants the running of pipe for a production test.

Wilbarger County: The Texas Company's Cook 1, confirmation test for the Main 2800-foot Gunsight lime pool, pumped 132 barrels initial after acidizing perforations at 2786-94 feet. The company's Matysek 1, south outpost, logged broken oil sand 2640-50 feet, and will proceed to the Gunsight. The multi-pay Fargo field, which was developed prior to the widespread adoption of dual completion methods, is to be given additional production from the Cisco by perforating pipe in Strawn wells.

Southwest Texas

Dual Completion in New Brooks County Field

Potentiality of the recently discovered Scott & Hopper field of Brooks County is partly indicated with Humble Oil & Refining Company dually completing a second well and opening a new sand. Scott & Hopper 3 ran around 50 feet higher structurally than the discovery, 1320 feet east. On potential gauge it flowed 272 barrels daily through 3/16-inch choke with gas-oil ratio of 1741-1, the oil being 41.2 gravity, 1220 pounds working pressure. Perforations were made at 6093-6103 feet. Second perforations were made at 6528-44 feet, 48 shots, and the flow was gas-distillate. Total depth is 6857 feet with 7-inch casing set on bottom.

The discovery well has not been finally completed due to mechanical difficulties, although three oil sands and four gas-distillate sections were logged. Scott & Hopper 2 has been staked 1320 feet south of the discovery.

DeWitt County: Arkansas Fuel Oil Company is making flow tests in Buehring 1, indicated discovery in the northeast corner of a 234-acre lease in J. F. Kemper survey, 3 miles northwest of Myersville. Casing was set to 7700 feet to perforate in the 7644-foot section after running electrical survey and taking sidewall samples. Shows are believed to be in the Carrizo-Wilcox section.

Refugio County: Sunray Oil Company will deepen a dry hole on the southeast flank of Mission River field from 7795 feet to 9000 feet. The well, Mitchell 4 on a 519-acre tract, was abandoned in December, 1941, before the 8440-foot sand was discovered in the Mission River field proper.

Starr County: Sun Oil Company is testing Solis 1, either a major extension or a new field 2 miles northwest of Garcia production. Considerable 44.6-gravity oil was recovered on a drill-stem test at 3763-69 feet and 3766½-72 feet. The hole is bottomed at 4023 feet with 5½-inch casing set to 3820 feet. Location is in southeast corner of tract 30, porcion 95, Jurisdiction of Camargo. Location has been made for Solis 1-B, 934 feet east of the discovery.

Goliad County: Continental Oil Company has been coring deeper in Reed 1, possible field discovery 10 miles northwest of Goliad and 2 miles southwest of Cabeza Creek, Wilcox discovery. Show of oil and gas was picked up in sand at 8085-92 feet with shale streaks carrying odors of gas and distillate at 8155-65 feet.

H. H. Coffield, J. W. Frazier and Ray N. Ranger are running production test in Chilton 1, wildcat 10 miles northwest of Goliad and 5 miles southeast of Slick-Wilcox field in northwest corner of a 321-acre lease in John F. Payne survey. Bottomed around 9000 feet, operators ran 5½-inch casing to bottom to test.

Jim Hogg County: The Texas Company has been swabbing open hole in East 1-B, Section 6, Las Moritas grant, north of Colorado field and one mile south of Neuhais field wells. Drill-stem test at 3455-62 feet recovered 90 feet of oil. Total depth is 3462 feet with 5½-inch casing set to 3455 feet. The test was made in Pettus sand.

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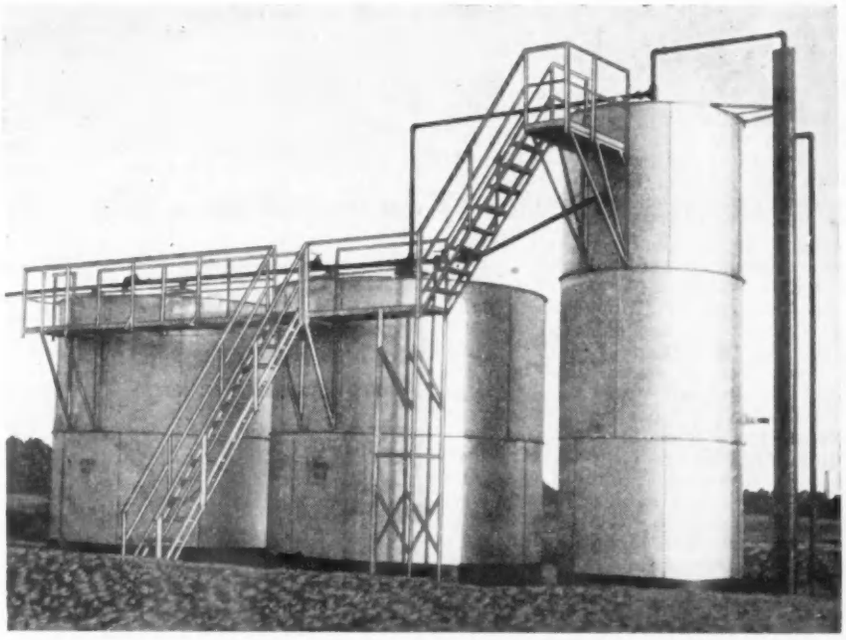

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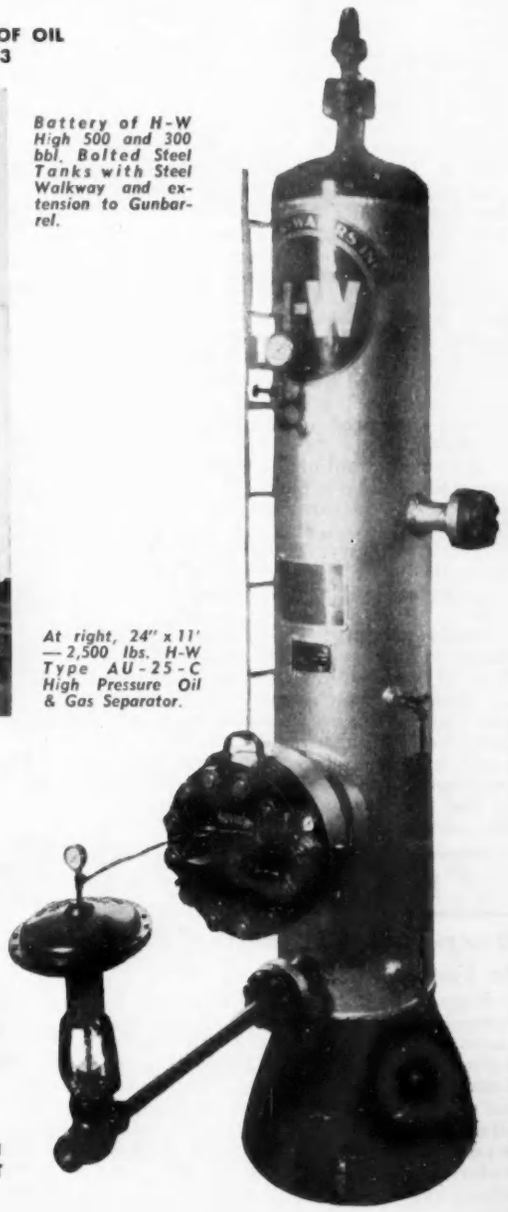

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Texas Gulf Coast

Smith Point Location Announced by Standard

Standard Oil Company of Texas has announced it will drill State-Galveston Bay 3-109 off Smith Point, Chambers County. This location, which is projected to 9500 feet, is 2952 feet northeast of State 2-109, which is preparing to make production test after setting 7-inch casing to 8169 feet, total depth 8173 feet. The field discovery was completed recently for 324 barrels daily on 5/32-inch choke from perforations at 8135-46 feet.

Sun Oil Company is moving in to rework Daugherty 1, discovery of a field 3½ miles north of Winnie in Chambers County. The well flowed 112 barrels of oil and 66 barrels of water per day through 10/64-inch choke, tubing pressure 1800 pounds, perforations at 8752-55 feet. The hole is bottomed at 9519 feet with 5½-inch casing set on bottom.

Wynn Crosby Drilling Company has staked location for White 1, a deep wildcat 2 miles southwest of Jackson Pasture, Garner Long survey of Chambers County. Two wells at Jackson Pasture produce gas-distillate.

Brazoria County: Humble Oil & Refining Company has taken over operation of South Texas Rice Production 2, east outpost at Danbury. This location was originally staked by Stanolind Oil & Gas Company. The projected depth is 12,500 feet. It is 1422 feet northeast of the first well which was a joint Humble-Stanolind test.

M. E. Davis has staked location for a Wilcox test 2 miles east of Schulenberg in Fayette County on a 164-acre tract in J. G. Sergeant survey 22. Projected to 8000 feet it will be one of the deepest wells ever drilled in the area. Continental Oil Company owns the only production in the county, it being near Cistern and produces from near the top of the Wilcox.

Outpost: Stanolind Oil & Gas Company has staked a deep test on the west side of Old Ocean field, in Matagorda County, although most of the pool is in Brazoria County. It is on a 400-acre lease in Battle, Berry & Williams survey with a projected depth of 11,000 feet.

Harris County: The Texas Company failed to make a flowing well in Koehler Fee 43, outpost on the northeast flank at Humble which pumped 48 barrels per day from perforations at 3367-70 feet after drilling to 6802 feet. The company has carried on a steady drilling program since production was opened in the Yegua and Cook Mountain on the east flank of the field.

South Louisiana

Deeper Sand Opened In Lockport Field

Magnolia Petroleum Company has opened a deeper sand at Lockport, Calcasieu Parish, with Miller 36, Section 9-10s-9w. Perforated at 7250-57 feet after finding sand at 7252-79 feet. On potential the well flowed 125 barrels of pipe-line oil daily through 9/64-inch choke, tubing pressure 1800 pounds, gravity 41.3, no water. Hole is bottomed at 7374 feet, where 5½-inch casing is set.

Beauregard Parish: Union Oil Company has completed potential gauge on Edgewood 1, discovery of Gordon field, Section 25-6s-10w. Casing was perforated at 6767-70 feet, and flow was 32 barrels of 58-gravity oil and 281,000 feet of gas through ⅛-inch choke, tubing pressure mounting to 2300 pounds.

St. Martin Parish: Amerada Petroleum Corporation is still testing Kidder 1, second well north of the discovery at Arnaudville. Drilled to 10,643 feet and with 5½-inch casing set to 10,243 feet, the first test was made in perforations in the 10,160-foot horizon but details have not been released.

Location has been made for Kidder 2 east of the discovery. The field was opened in December, 1943, with Bertinot-Quebedeaux 1, Section 44-7s-5e, flowing 65 barrels daily through 5/32-inch choke, 42.5 gravity, from perforations at 10,349-78 feet.

New Tests: First activity in more than a year is in store for Hayes area of Jeff Davis Parish with Gulf Refining Company announcing it will drill Laccassine 1, SWc SE 19-11s-5w. The well is projected to Frio. The company discovered distillate production in the area, but there has been little development.

Phillips Petroleum Company is preparing to drill Krause 1 in the Bear field area of Beauregard Parish, first drilling in the territory in several months. Derrick has been erected on NW 28-6s-9w, on Humble Oil & Refining Company farmout.

Acadia Parish: Union Sulphur Company is drilling past sidetracking point in Daigle 1, in Section 49-7s-2e, southwest of Church Point. The old total depth was 9817 feet and the well attempted to blow out from a sand topped at 9815 feet, sticking the drill pipe and necessitating a sidetracked hole. Present depth is around 6710 feet.

Continental Oil Company and Union Sulphur Company are making production tests in Shoesmith 1, indicated wildcat discovery in the China area of Jeff Davis Parish. The well, located in Section 1-8s-4w, is bottomed at 10,092 feet and 5-inch liner is set to 9563 feet. It showed gas and salt water on first test but details have not been announced.

Assumption Parish: Tide Water Associated Oil Company has spudded Kessler & Sternfels 1, Unit 2, Section 136-12s-14e, on east flank of Napoleonville dome. This area was established to production early in 1943, but drilling has been slow because of sand conditions.

Mississippi

Second Heidelberg Well Near Completion

Eight sand bodies carrying oil have been cored in the Eutaw section by Gulf Oil Corporation in the second well drilled in the Heidelberg area of Jasper County. Lewis Morgan 1, NE SE 30-1n-13e, topped Eutaw at 4500 feet and at the week's end was coring at 4890 feet, near the producing level of the discovery well, Helen Morrison 1, SW SE 30-1n-13e, now producing 300 barrels a day. Gulf Oil Corporation has made a location in NW SE 25-1n-12e.

☆

GEORGE E. BURGHER has been appointed manager of the Tulsa office of Continental Oil Company. He entered the oil business in 1918, organizing the Burgher Oil & Gas Company.

North Louisiana

Tensas Parish Well Makes Tuscaloosa Flow

Exploration of the Tuscaloosa formation along the border of Mississippi and Louisiana was given encouragement with the completion of the California Company's Brown 1, 46-9n-10e, in Tensas Parish, north of the Lake St. John producing area. The well flowed 311 barrels 36.7-gravity oil per day from perforations from 9067-9129 feet. The location is 1 mile north of Carter Oil Company's Wilcox production at North Lake St. John, and 3 miles north of Tuscaloosa production in the Lake St. John field. California Company has made 2 locations in the area.

The Wilcox area northwest of deep production in the Holly Ridge field received another setback with failure of Arkansas Fuel Oil Company's Gibson 1, 7-11n-10e, at 3053 feet. Placid Oil Company's Ayer 1, 18-14n-11e, abandoned at 9770 feet.

De Soto Parish: The most active section in North Louisiana is the Holly extension area where 6 producers have been obtained from Scott sand around 2800 feet, 2 other wells are drilling, and 7 recent locations have been made. The new activities are north, east and south of an old producing area which has been inactive for several years.

Lincoln Parish: Arkansas Louisiana Gas Company has abandoned Liner Unit 1, NE NE SE 31-19n-3w, after drilling to 6200 feet. It was the first well drilled in the area since the same company's Giles 1, 19-19n-2w, produced 84,000,000 cubic feet of gas from 5878-95 feet.

Arkansas

No New Wildcat Work Announced During Week

Arkansas oil fields recorded only two new producers last week, and there were no new wildcat operations announced for the first time in several weeks. Work was started on two outside wells.

Union County: The first test in several months in the Mt. Holly field is Atlantic Refining Company's Church Unit 1, SE NW NE 15-17-18, a location.

Following indications of slow development activity in the Wilks pool, northwest of the Shuler area. The Atlantic Refining Company has cancelled permit for the second well in that area. The company's discovery, Mahoney & Murphy 1, C NE SE 2-18-18, is producing 50 barrels of oil, 65 percent water, and 500,000 cubic feet of gas per day.

Michigan

Arenac County Reports Deep River Area Offset

Basin and Rayburn's Peters 1, S½ NE NE 7-19n-4e, west offset to the Deep River discovery, Arenac County, Michigan, flowed 492 barrels in 13 hours from Dundee lime at 2851½ feet. It followed closely on the drilling of a

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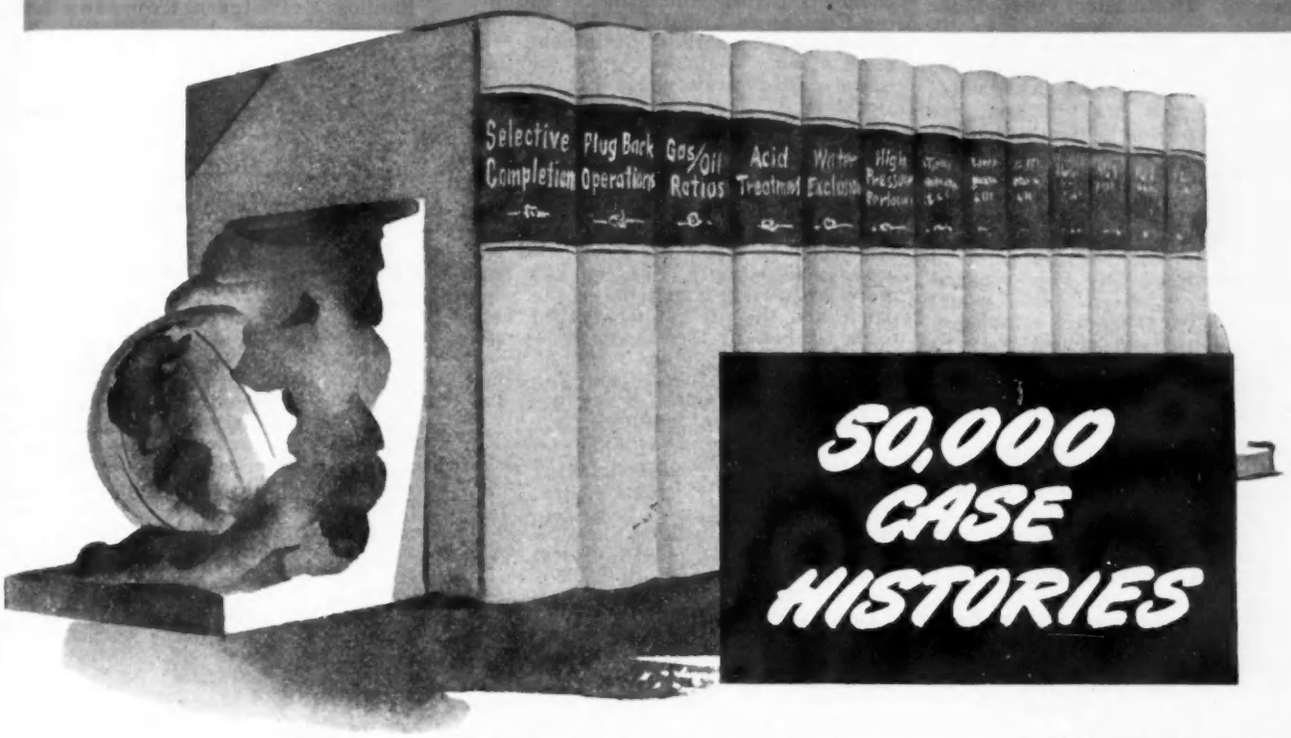

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dry hole by Ervin Major at Klein 1, S½ SW SE 5-19n-4e, abandoned at 3120 feet after missing Dundee pay. Four rigs are running and three other locations have been surveyed.

The conservation commission dismissed the appeal of Reed City operators to set aside a proration order issued December 16 by P. J. Hoffmaster, director. Hoffmaster reduced the field's base allowable from 125 to 100 barrels per day per well after operators had unanimously opposed any change and the advisory board had voted against a change. It was the first time since the 1939 oil law was enacted that producers had appealed an order.

At the hearing March 13 the director told the commission that he was not bound by the statute to "fix orders solely on testimony presented at hearings," and asserted that his personal studies of the Reed City field satisfied him that the 125-barrel rate would create waste. The 1939 act establishes the commission as an appeal body to any acts of the director. Operators could bring suit in circuit court but such action is not likely.

☆

EUGENE HOLMAN, vice president and director of Standard Oil Company (New Jersey), last week reached Miami, Florida, aboard a Pan American clipper, on return from South America, together with four associates. They had inspected production facilities in Peru, Ecuador, and Colombia. Others in the party included Frank W. Pierce, vice president and director, and L. M. McCollum, vice president in charge of production, and two officials of the subsidiary, International Petroleum Company of Canada, R. V. le Soeur and F. B. Bimmel.

Rocky Mountain Area

New Pay Zone Chalked Up At Steamboat Butte

Latest Wyoming Tensleep sand discovery is British American Oil Producing Company's Tribal 2, C NE NE NE 31-4n-1w, in Steamboat Butte field, Fremont County, estimated good for 1000 barrels of 29-gravity oil per day. It swabbed 455 barrels and flowed and swabbed 205 barrels the first 24 hours from Tensleep topped at 6771 feet, total depth 7034 feet. This company discovered oil at Steamboat Butte a year ago in the Sundance sand at 5094-5109 feet in Tribal 1-E, NE NW NW 5-3n-1w, which pumped 623 barrels of 30-gravity oil initially. Subsequently two more wells were completed in the Sundance and the present well is the first to be drilled to the Tensleep. Steamboat Butte is two miles north of Pilot Butte, which produces from Tensleep, and is a small faulted dome with 350 feet of independent closure.

Weld County Wildcat: Ohio Oil Company's Nordloh 1, SE SE SE 20-5n-63w, Colorado wildcat 12 miles southeast of Greeley, has 11¾-inch casing cemented at 406 feet. The well is slated to test the Dakota series around 8000 feet. The company has a block of 50,000 acres covering five seismograph highs.

Dry Creek Tensleep Test: Ohio Oil Company's N.P.R.R. 18, NE NE SW 3-7s-21e, important test in the Dry Creek field, Carbon County, Montana, is drilling in Tensleep sand at 6977 feet, top at 6865 feet. The sand penetrated so far is hard and tight with little oil saturation. Dry Creek produces gas from the Eagle and Frontier formations and oil from the Cloverly, and is located 18 miles northwest of the Elk Basin field.

Oregon Test Quits

Phillips Petroleum Company has abandoned Dobbyn 1, C NW SW 28-26s-13w, Coos County, southwestern Oregon, after failing to find production down to 6938 feet. The well drilled through 5000 feet of basalt and failed to encounter the Miocene.

California

Buena Vista, Midway, Test Best Discovery in Years

Rated the most promising discovery in California for many years, Standard Oil Company of California's Buena Vista, Midway, test of a zone never heretofore produced in that area, showed big production possibilities on completion test. Production test was made from the lower of two new zones discovered in the well, the upper with a thickness of 16 feet and the lower 60 feet. Drill-stem tests had shown both richly saturated, but the upper zone was left for test at a later time.

Related contours indicate two new pays may be expected to be found over a large area.

The two pays were found between 4275-4305 feet and 4370-4430 feet.

Fresno County: First tests of Standard Oil Company's Bourdieu area wildcat, which for a time encouraged hopes it would open a new pool between Kettleman North Dome and Coalinga, were unimpressive. Only muddy water with oil colors was recovered from formation test of interval 10,716-10,819 feet. Well is being plugged and tested by stages.

Los Angeles County: The discovery of a new pool northwest of Aliso Canyon is confirmed by results of a production test of the Barnsdall-Bandini Roosa 1 wildcat, but early performance of the well is discouraging. After failing to flow, the well was placed on the pump and at last reports was making 63 barrels of oil accompanied by 77 barrels of water.

Ventura County: Completion of Los Nietos Company's Elkins 2-1, westward from Shiells Canyon known production proves up a half-mile extension of that field. The well pumped 133 barrels daily of clean 33-gravity oil from El Rancho and Elkins zones.

Production Proved East of Turner Valley Field

Following a drill-stem test made on March 11, the discovery of commercial production has been confirmed by New Ranchmens' Oil Company's Snider well, a wildcat east of the Turner Valley field and southeast of Calgary. The test recovered "substantial quantities of 50-gravity, green oil," with some water, and the hole will be plugged back in the lime that was penetrated. In addition to a good saturation zone in the lime, a 41foot section of the Dalhousie was saturated in a core taken from 100 feet above the limestone and higher.

More of "Papa Knows Best"

The administration knows best about so many things. It knew Italy should be invaded although military men thought otherwise. It knows Congress is a nuisance. It knows news should be repressed. It knows free private enterprise is to be abolished. And now it knows medicine is to be socialized. Of course we live longer here in America. The death rate has been cut in half. But you can't use private practice by free physicians for political purposes — no bureaus, no taxes, no subsidies. Of course we really aren't qualified to comment. "Papa knows best" and will eventually do something about all this unseemly free speech. As a matter of fact a lot has already been done. Look at Esquire and the radio.

WE'VE SUPPLIED OIL MEN IN OUR AREA FOR 36 YEARS

PELICAN WELL TOOL & SUPPLY CO.

SHREVEPORT LOUISIANA

PELCO

Houston
Berwick
Houma
New Iberia
Lake Charles

United States Well Completions

ARIZONA WILDCAT

Apache County—Failure: Argo Oil Corp.'s State 1, c ne ne 22-15n-29e, elev 5741 ft, abnd in igneous rock 2637 ft.

ARKANSAS

Columbia County — Dorcheat - Macedonia: Mid-Continent Oil Co.'s Sharman-Warnock 1, n½ nw 22-19-21, sandstone oil pay 6700 ft, perf 6700-10 ft, 125 bbls, 3/16-in, td 8624 ft.

Columbia County — Haynesville Extension: Mid-States Oil Co.'s S. J. Beene 1, 2-20s-20w, pay 5489 ft, Pettit 5500 ft, perf 5486-5562 ft, flow 86 bbls, 15/64-in, td 5572 ft.

Lafayette County—Midway: Southwood Oil Co.'s Hodnett 6, c sw sw 7-15s-23w, Reynolds 6430 ft, 240 bbls, 10/16-in, td 6457 ft.

ARKANSAS WILDCAT

Union County—Smackover-Norphlet Failure: B. H. Murphy and J. E. Head's J. T. Murphy 1, c se 8-16-15, deep test, dry and abnd 5566 ft.

CALIFORNIA

Fresno County — Coalinga: Shell's 127-26, sw nw sw 26-19-15, pump 180 bbls 23-gr, perf 2458-2370, 2351-08, 2245-2123 ft, td 2465 ft.

Shell's 186-26, se ne se 26-19-15, pump 92 bbls oil, 92 wtr, perf 3728-3674, 3574-27, 3512-2448 ft, td 3730 ft.

Standard's 40-1C, ne nw nw 1-20-15, pump 178 bbls 19.8-gr, 105 ft perf 3835 ft, td 3845 ft.

Standard's 37-22A, se nw nw 22-19-15, td 1087 ft, pb and abnd 925 ft.

Fresno County—Coalinga, Eocene: Superior's Cagle B-12, ne se nw 6-20-16, flow 1464 bbls 28.9-gr, 28/64-in, 580/0 lbs, 651 ft perf 8198 ft, td 8198 ft.

Fresno County—Pleasant Valley: Standard's PVF 7-21F, nw sw nw 21-20-16, flow 475 bbls 29-gr, 306,000 gas, 1100/1300 lbs, 178 ft perf 9128 ft, td 9130 ft.

Kern County—Belridge, South: Belridge Oil Co.'s 12-34, sw nw nw 34-28-21, pump 50 bbls, 581 ft perf 1070 ft, td 1070 ft.

Belridge Oil Co.'s 13-34, nw sw nw 34-28-21, pump 35 bbls 13.6-gr, 7 wtr, 453 ft perf 900 ft, td 900 ft.

Belridge Oil Co.'s 21A-34, ne nw nw 34-28-21, pump 35 bbls 14.8-gr, 4 sand, 692 ft perf 1235 ft, td 1235 ft.

General Pet. Corp.'s 1-1, nw nw sw 1-29-21, pump 28 bbls 14-gr, 20 wtr, perf 871-922, 958-1010, 1040-50 ft, td 1060 ft.

Kern County—Buena Vista: Honolulu's 51, ne ne ne 10-32-24, pump 53 bbls, 75 ft perf 2763 ft, Scalez 2680 ft, td 2783 ft.

Kern County — Edison: J. Paul Getty's Portals 6, nw se sw 5-30-29, pump 240 bbls, 17.7-gr, 30 wtr, 170 ft perf 4101 ft, td 4101 ft.

Kern County — Fruitvale: P. M. Girard's Signal-Anderson 1, nw sw nw 26-29-27, flow 248 bbls 18-gr, 165 wtr, 32/64-in, perf 3379-87, 3432-31, 3453-68, 3709-19 ft, td 4572 ft.

P. M. Girard's Signal-Bowman 1, nw nw nw 26-29-27, pump 35 bbls 16-gr oil, 9 wtr, perf 4434-65, 4161-71, 4070-75 ft, td 4625 ft.

Western Gulf's Red Ribbon 17, ne sw se 27-29-27, pump 118 bbls, perf 4325-05, 4275-25, 4170-50, 4120-4000, 4065-05, 3960-10, 3895-35, 3825-05, 3755-15 ft, td 4426 ft.

Kern County—Kern Front: Richfield's Kern 7, ne nw ne 22-28-27, pump 64 bbls oil, 36 wtr, 355 ft perf 2473 ft, td 2475 ft.

Standard's 2-3, se nw nw 21-28-27, pump 231 bbls 11.7- gr, 30 wtr, 105 ft perf 2952 ft, td 2955 ft.

Kern County—McKittrick: H. H. Magee's Tulare 3, nw sw sw 20-30-22, pump 4 bbls 276 ft perf 670 ft, td 1830 ft, pb 700 ft.

Kern County — Midway-Sunset: Chanslor Canfield Midway Oil Co.'s "G" 66-9, ne nw se 9-23-32, pump 27 bbls 19-gr, 4 wtr, perf 2360-2635 ft, td 2951 ft, pb 2686 ft.

General Pet. Corp.'s Shale 40, se ne ne 14-31-22, pump 7 bbls 19.8-gr, perf 1763-1852, 1901-18 ft, Gusher zone 1775 ft, td 3193 ft, pb 1920 ft.

Kern County—Paloma: Western Gulf's Paloma Unit 16-2, sw nw sw 2-32-26, gas lift 131 bbls 60.3-gr, 700,000 gas, 500/290 lbs, perf 10,080-160, 10,170-90, 10,200-220, 10,250-80, 10,330-40, 10,350-90 ft, oil sand 10,085 ft, td 10,513 ft.

Western Gulf's Paloma Unit 58-3, sw sw se 3-32-26, gas lift, 19 bbls 59.4-gr, 30 wtr, perf 10,050-80, 10,095-135, 10,180-200, 10,215-45 ft, td 10,416 ft.

Kern County — Poso Creek: Atlantic Oil's Sesnon 4, se ne se 17-28-27, pump 160 bbls 14-gr oil, 100 wtr, perf 2766-71, 2782-2792, 2842-52, 2878-88 ft, td 3010 ft.

Tide Water's Wilcox 11, se sw sw 4-28-27, pump 35 bbls 13-gr oil, 65 wtr, perf 2575-2784 ft, td 2785 ft.

Kern County—Tejon: Richfield's A-78-35, nw se se 35-11-19, pump 108 bbls 18-gr, 60 ft perf 2201 ft, oil zone 1923 ft, td 2250 ft.

Los Angeles County—Montebello: Standard's Baldwin 115, ne sw ne 1-2-12, pump 116 bbls oil, 84 wtr, 253 ft perf 3492 ft, td 3494 ft.

Los Angeles County — Newhall - Potrero: Barnsdall's RSF 42, 8540 ft s 12,340 ft e cor "J," 36-4-17, flow 159 bbls 30.6-gr, 40 wtr, 255 ft perf 6848 ft, 2½-in 6841 ft, td 6881 ft, pb 6850 ft.

Los Angeles County—Potrero: Basin Oil's 14, sw nw ne 34-2-14, flow 200 bbls 33.5-gr, dr 9388 ft th to sidetrack fish redr 9110 ft, 578 ft blank 4¾-in cem 9110 ft, perf at intervals.

Los Angeles County—Torrance: Le Bow-McNee's Community Two, 2300 ft n 360 ft e c/l Valerie and Spencer, 5-4-14, pump 85 bbls, perf 3193-3277, 3380-3630 ft, td 3640 ft.

Morton & Dolley's Whitelaw 1, 280 ft wly on c/l State fr c/l Wilmington, th 200 ft nly parallel to Wilmington, 30-4-13, pump 166 bbls oil, 52 wtr, perf 3102-3325, 3540-3729 ft, td 3730 ft.

Los Angeles County—Wilmington: General Pet. Corp.'s Ford 42, 4379 ft s 1285 ft e c/l Ford and Anaheim, pump 181 bbls 14-gr, 147 ft perf 2574 ft, td 2575 ft.

Long Beach Oil Dev. Co.'s "W" 70, 310 ft nely on n/l Seaside fr e side 23rd th 150 ft sely. at r/a, 10-5-13, flow 169 bbls 18.2-gr, 34/64-in, perf 2928-3191 ft, td 3196 ft.

Long Beach Oil Dev. Co.'s "W" 81, 471 ft nely on n/l Seaside fr intersec e side 27th th 1299 ft sely at r/a, 10-5-13, flow 346 bbls 21-gr, 28/64-in, 160/360 lbs, perf 2593-2631, 2733-2989 ft, td 2995 ft.

Orange County—Coyote, West: Standard's Murphy Coyote 134, nw nw sw 18-3-10, flow 612 bbls 31.6-gr, 45 wtr, td 5895 ft, pb 5867 ft.

Orange County—Huntington Beach: Huntington State Co.'s State 9, 124 ft swly 294 ft nwly fr c/l 21st and Ocean, 10-6-11, flow 245 bbls 20.5-gr, 14/64-in, 330/910 lbs, 624 ft perf 3124 ft, td 3124 ft.

Santa Barbara County—Santa Maria Valley: Macrate & Sons' Fernandez 8, se nw se 26-10-34, pump est 50 bbls, 526 ft perf 4100 ft, td 4152 ft.

Union's Cook 2, 990 ft s 330 ft e nw cor Lillie Cook lease, pump est 500 bbls, 631 ft perf 2791 ft, Franciscan 2745 ft, td 2793 ft.

CALIFORNIA WILDCATS

Kern County—Failures: Signal Pet. Co.'s S.P. 1, sw sw nw 25-28-28, Round Mountain area, gray sand, Vedder 2898 ft, lower Vedder 3162 ft, abnd 3175 ft.

Standard's 6-6, 2634 ft due w fr e¼c 29-29-29, Kern Bluff area, abnd 1936 ft.

Los Angeles County—Failure: Chanslor Canfield Midway Oil Co.'s East Whittier Comm. 4-1, 660 ft s of s/l Whittier 131 ft e at r/a to c/l Scott, 2-3-11, abnd 6133 ft.

Tulare County—Failure: Amerada's Dinuba Comm. 20-1, se sw se 20-16-24, Kingsburg area, granite, abnd 1231 ft.

COLORADO

Rio Blanco County—Wilson Creek: Texas Company-California Co.'s Unit 14, sw se ne 34-3n-94w, flow 637 bbls 11½ hrs fr Morrison-Sundance, 2½-in, 7-in 6794 ft, td 6794 ft.

ILLINOIS

Bond County: Thompson's Follett 2, ne sw sw 31-4n-2w, abnd 1127 ft.

Clay County: Texas Co.'s Byers 6, nw sw ne 22-5n-5e, pump 30 bbls, 2318 ft.

Texas Co.'s Spencer-Byers Comm. 2, se ne se 22-5n-5e, pump 60 bbls, 2362 ft.

Texas Co.'s Williams 2, ne nw ne 22-5n-5e, pump 20 bbls, 2359 ft.

Edwards County: Transwestern's Crackel 1, sw se sw 6-2s-11e, pump 27 bbls, 3159 ft.

Superior's Willett 1, nw sw sw 30-2s-11e, pump flow 504 bbls, 3169 ft.

Luttrell et al's Litherland 1, sw sw se 20-1n-12w, pump 35 bbls, 2351 ft.

Franklin County: Shell's C. W. & F. Caol, nw se se 24-6n-2e, abnd 2171 ft.

Hamilton County: Menhall Drlg. Co.'s Dale Town Lots 1, sw se se 13-6n-6e, pump 18 bbls, 2493 ft.

Texas Co.'s Randolph 1, nw se se 34-6s-6e, abnd 3172 ft.

Jefferson County: Texas Co.'s Clark 1, c e se ne 13-1s-3e, pump 77 bbls, 2890 ft.

Gulf's Knight 1, nw ne se 23-1s-4e, abnd 3015 ft.

Gulf's Milford-Burkett 1, ne ne 23-1s-4e, pump 33 bbls, 3021 ft.

Pruitt et al's Melton Comm. 1, ne nw se 6-3s-3e, pump & flow 143 bbls, 2809 ft.

Madison County: Ohio's Grotefendt 1, se se ne 9-4n-2w, pump 128 bbls, 1791 ft.

Marion County: Mitchell's Hester 2-B, se nw nw 22-2n-2e, abnd 2091 ft.

Richland County: Pure Van Blairacum 1, nw ne ne 30-3n-9e, flow 970 bbls, 3008 ft.

Saline County: Jarvis Bros. et al's Sisk "B" 1, ne ne ne 15-10s-6e, abnd 2002 ft.

Wabash County: Superior's Crowe 9, se sw sw 4-1s-12w, pump 10 bbls, 2024 ft.

Olds Oil's Wabash County Poor Farm 1, nw

Wells Completed in the United States in Week Ended March 25, 1944

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama	....	....	....	....	....	....	....	....	....	....	....	....	1	.....
Arizona	....	....	....	....	....	....	....	....	1	1	1	....	2	.....
Arkansas	2	....	....	....	2	....	....	....	1	1	3	3	38	53
California	36	....	....	1	37	....	....	....	4	4	41	42	437	287
Colorado	1	....	....	....	1	....	....	....	....	....	1	....	9	5
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Illinois	24	....	....	6	30	....	....	....	4	4	34	....	342	436
Indiana	2	....	....	1	3	....	....	....	....	....	3	....	78	69
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Kansas	12	1	....	4	17	....	1	....	11	12	29	33	438	342
Kentucky	5	....	....	3	8	....	....	....	1	1	9	....	107	69
Louisiana	6	....	....	1	7	....	1	....	1	2	9	20	146	129
North Louisiana	1	....	....	1	2	....	....	....	1	1	3	5	45	50
South Louisiana	5	....	....	....	5	....	1	....	....	1	6	15	101	79
Michigan	8	....	....	1	9	....	1	....	3	4	13	....	134	103
Mississippi	....	....	....	....	....	....	....	....	....	....	....	....	22	18
Missouri	....	....	....	....	....	....	....	....	....	....	....	....	6	3
Montana	4	....	....	....	4	....	....	....	....	....	4	....	59	38
Nebraska	....	....	....	....	....	....	....	....	....	....	....	....	7	17
New Mexico	8	....	....	....	8	....	....	....	....	....	8	10	105	60
New York	15	....	10	1	26	....	....	....	....	....	26	26	300	278
Ohio	3	4	....	....	7	....	....	....	....	....	7	10	173	214
Oklahoma	13	3	....	6	22	....	1	....	1	2	24	32	350	323
Pennsylvania	28	9	18	2	57	*	....	....	....	....	57	51	661	572
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	3	1
Texas	55	1	....	16	72	5	7	1	30	38	115	83	1,226	897
E.Tex.Bor. Co.'s	....	....	....	....	....	....	....	....	....	....	....	....	4	5
E. Texas Field	....	....	....	....	....	....	....	....	....	....	....	....	1	2
Rest of E. Texas	1	....	....	1	2	....	1	....	2	3	5	9	67	47
North Texas	16	....	....	5	21	1	1	....	4	5	27	25	285	211
W. Central Tex.	2	....	....	....	2	1	3	....	3	6	9	4	89	70
West Texas	19	....	....	2	21	2	....	1	4	5	28	27	331	203
Tex. Panhandle	3	....	....	....	3	....	....	....	....	....	3	6	44	63
G. Coast, Upper	3	....	....	2	5	1	....	....	3	3	9	2	103	60
G. Coast, Lower	10	1	....	2	13	....	1	....	5	6	19	4	194	129
Southwest Texas	....	....	....	4	4	....	1	....	5	6	10	4	84	88
S. Central Tex.	1	....	....	....	1	....	....	....	4	4	5	2	22	19
West Virginia	3	7	....	3	13	....	....	....	....	....	13	13	222	144
Wyoming	6	....	....	....	6	....	....	....	....	....	6	....	38	30
Total U.S.	231	25	28	45	329	5	11	1	57	69	403	323	4,904	4,091

* Includes distillate wells. † Includes salt water disposal wells.

ne nw 8-1s-12w, pump 75 bbls, 2077 ft.

Texas Co.'s Stein 10, sw nw nw 8-1s-12w, pump 79 bbls, 2032 ft.

Hayes & Wolfe Bros.' Storckman 1, nw ne sw 4-1n-13w, pump & flow 185 bbls, 2547 ft.

Washington County: Shell's Fish 1, ne se se 14-3s-3w, pump 21 bbls, 1317 ft.

Wayne County: First Nat'l Petro. Trust's Ellis Comm. 2 se nw se 18-1s-5e, pump 60 bbls, 2989 ft.

Wayne County: Deep Rock's Perry-Young Comm. 1, se nw 32-1s-7e, pump 46 bbls, 3310 ft.

Gulf's Vogel 1, nw nw 32-1s-7e, pump & flow 110 bbls, 3273 ft.

Pure's Taylor 3, se nw 33-1s-7e, pump 67 bbls, 3305 ft.

White County: Texas Co.'s John Hancock Mutual 1, nw nw nw 21-3s-9e, pump 76 bbls, 3396 ft.

Sohio's Gray 13-H, nw se ne 20-4s-14w, pump 89 bbls, 2849 ft.

Superior's Greathouse 16, se ne se 4-5s-14w, pump 13 bbls, 734 ft.

ILLINOIS WILDCATS

Cumberland County — Failure: Walker et al's Shields 1, se se se 21-10n-8e, abnd 2543 ft.

Hamilton County—Failure: Kingwood Oil et al's Parker 1, nw se ne 6-6s-6e, abnd 3433 ft.

St. Clair County—Failure: Braun's Minier 1, sw se se 27-1s-8w, abnd 309 ft.

White County — Failure: Big Chief Drlg. Co.'s French 1, 34-3e-8e, abnd 3562 ft.

INDIANA

Daviess County: Cannon's Beck Heirs 5, sw sw se 8-2n-5w, pump 8 bbls, 642 ft.

Gibson County: Superior's Marvel-Braselton Unit 1, se ne nw 30-2s-11w, pump 14 bbls, 2173 ft.

Pike County: Dawson's Roy & Eros Coal 1, ne ne sw 16-3s-7w, abnd 1185 ft.

KANSAS

Barton County — Kraft - Prusa: Derby & Comanche's Dolechek 2, ne ne nw 32-16s-11w, Arb 3330 ft, 500 gals acid, pump 50 bbls, 3353 ft.

Barton County — Trapp: (semi - wildcat) Plains Exploration's Karst 1, ne nw sw 11-16s-14w, Arb 3341 ft, td 3389½ ft, pb and abnd 3332 ft.

Barton County—Ames: Alco Valve's Robl "A" 1, se se sw 22-18s-11w, pay 3053-57 ft, 1000 gals acid, pump 472 bbls, 3057 ft.

Cowley County—Rock: Stelbar's Joslin "A" 5, sw se nw 21-30s-4e, B'ville 2795 ft, pump 50 bbls, 2819 ft.

Ellis County—Bemis-Shutts: Lario Oil & Gas' Marshall 14, c e½ ne nw 31-11s-17w, Arb 3647 ft, 5000 gals acid, pump 500 bbls, 3695 ft.

Ellis County—Leiker: Skelly's C. M. Graf 1, c n½ sw nw 14-15s-18w, Lansing 3267 ft, Arb 3593 ft, abnd 3604 ft.

Greenwood County—Virgil: Rockhill Sand & Gravel Co.'s Berry 1, c e½ ne¼ 32-23s-13e, Miss 1610 ft, pay 1610-24 ft, shot 20 qts, pump 50 bbls oil, 10 wtr, 1627 ft.

McPherson County—Graber: Branine & Goering's Mueschke 1, sw nw ne 16-21s-1w, Viola 3452 ft, abnd 3469 ft.

Pratt County — North Stark: Stanolind's Mary E. Leens 1, ne se sw 12-26s-12w, Dolomite 4159-61 ft, abnd 4252 ft.

Pratt County—Carmi: Skelly's Miskimen 4, ne sw nw 32-26s-12w, Arb 4279 ft, flow 302 bbls 10 hrs, 4310 ft.

Pratt County—Cunningham: Gulf's Sellon 1, c e½ se nw 3-28s-11w, KC 3504 ft, pay 3546-50 ft, 8000 gals acid, pump 156 bbls 19 hrs, 3555 ft.

Pratt County—Chitwood: Deep Rock's Coulson 1, ne nw sw 23-28s-12w, Viola 4295 ft, Dolomite 4395 ft, 4000 gals acid, flow 35 bbls, 4500 ft.

Rooks County—Barry: Continental's J. E. Slenskey 3, ne se ne 2-9s-19w, Lansing 3186 ft, pay 3401-10 ft, 5000 gals acid, pump 341 bbls, 3512 ft.

Russell County—Russell: V. D. Sidey's Driscoll 1, se se sw 21-13s-14w, Arb 3275 ft, pump 150 bbls, 3296 ft.

Russell County — Williamson: Hartman & Blair's Fred W. Boxberger 2, c e½ se ne 4-14s-14w, Lansing 2983 ft, 200 gals acid, pump 175 bbls oil, 75 bbls wtr, td 3260 ft, pb 3014 ft.

Mingenback's Rusch 1, (semi-wildcat) ne ne nw 16-14s-14w, Solid Granite 3319 ft, abnd 3330 ft.

Russell County—Rusch: Co-operative Consumers Corp.'s Brandenburg 1, se se sw 20-14s-14w, Gorham 3265 ft, pump 500 bbls, 3271½ ft.

Russell County—Driscoll: Alva Billings & Haynes' Herrington 2, c w½ nw sw 30-15s-11w, Conglomerate 3305 ft, abnd 3374 ft.

Seward County—Hugoton Gas Area: Quinque's Grover 1, ne ne se 2-35s-34w, lime 2686 ft, 25,000 gas, 2762 ft.

KANSAS WILDCATS

Barton County—Failure: Helmerich & Payne et al's Frederick 1, 15-16s-11w, abnd 3470 ft.

Barton County—Discovery: Mineral Products' Reif 1, nw nw sw 30-16s-12w, pump 131 bbls 13 hrs, 2000 gals acid, td 3403 ft.

Barton County—Failure: Western Exploration's Titus 1, nec nw 19-20s-13w, abnd 3576 ft.

Finney County—Failure: Shallow Water Rfg et al's First Nat'l Bank of Hays City 1, c ne se 30-21s-33w, abnd 4750 ft.

Hodgeman County — Failure: Continental's Koontz 1, swc 30-23s-21w, abnd 5097 ft.

Morton County—Failure: Eason Oil's Craver 1, 32-34s-42w, abnd 4700 ft.

Rooks County—Failure: Sunray's Federal Land Bank 1, 20-6s-19w, abnd 3618 ft.

Saline County—Failure: Pryor et al's Duncan 1, 35-13s-1w, abnd 3307 ft.

Stafford County—Failures: Shell's Ruegan 1 "A," nw 4-21s-11w, abnd 3499 ft.

Appleman et al's Fisher 1, c s sw ne 30-21s-12w, abnd 3698 ft.

KENTUCKY

Butler County: Fulk's Moore & Helsey 1, 2-H-32, pump 25 bbls, 604 ft.

Butler County Oil's Gaston 2, 8-H-32, pump 18 bbls, 504 ft.

Hudson et al's McPhearson 1, 14-H-32, pump 10 bbls, 421 ft.

Henderson County: Carter's Borup 1, 24-P-21, abnd 2607 ft.

Carter's Culver Oil & Mineral 6, 24-P-21, pump 208 bbls, 1728 ft.

McLean County: Vickers et al's Kirtley 1, 20-L-28, abnd 2028 ft.

Union County: Weinert et al's Greenwell B-1, 12-0-20, pump 124 bbls, 2615 ft.

Weinert's Clements 3, 11-0-20, abnd 2605 ft.

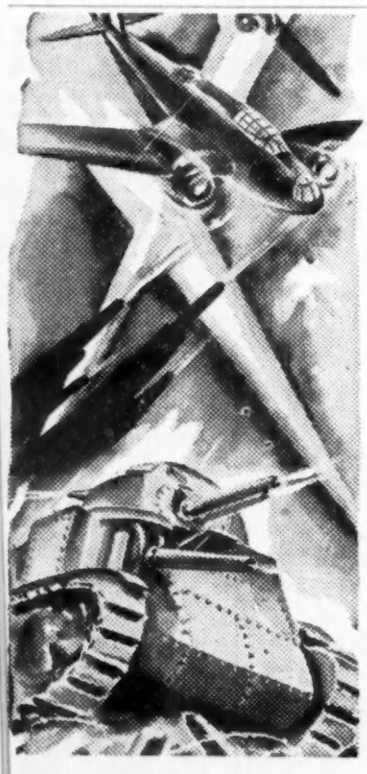
KENTUCKY WILDCAT

Henderson County—Failure: Indiana Farm Bureau's Powell 2, 11-N-24, abnd 1664 ft.

NORTH LOUISIANA

LaSalle Parish—Nebo-Hemphill: George H. Echols' Kendricks 4, 660 ft w 1980 ft s of ne cor 7-7n-4e, flow 161 bbls, 8/64-in, perf 3872-78 ft, td 4000 ft.

Caddo Parish—Caddo-Pine Island: A. Paul



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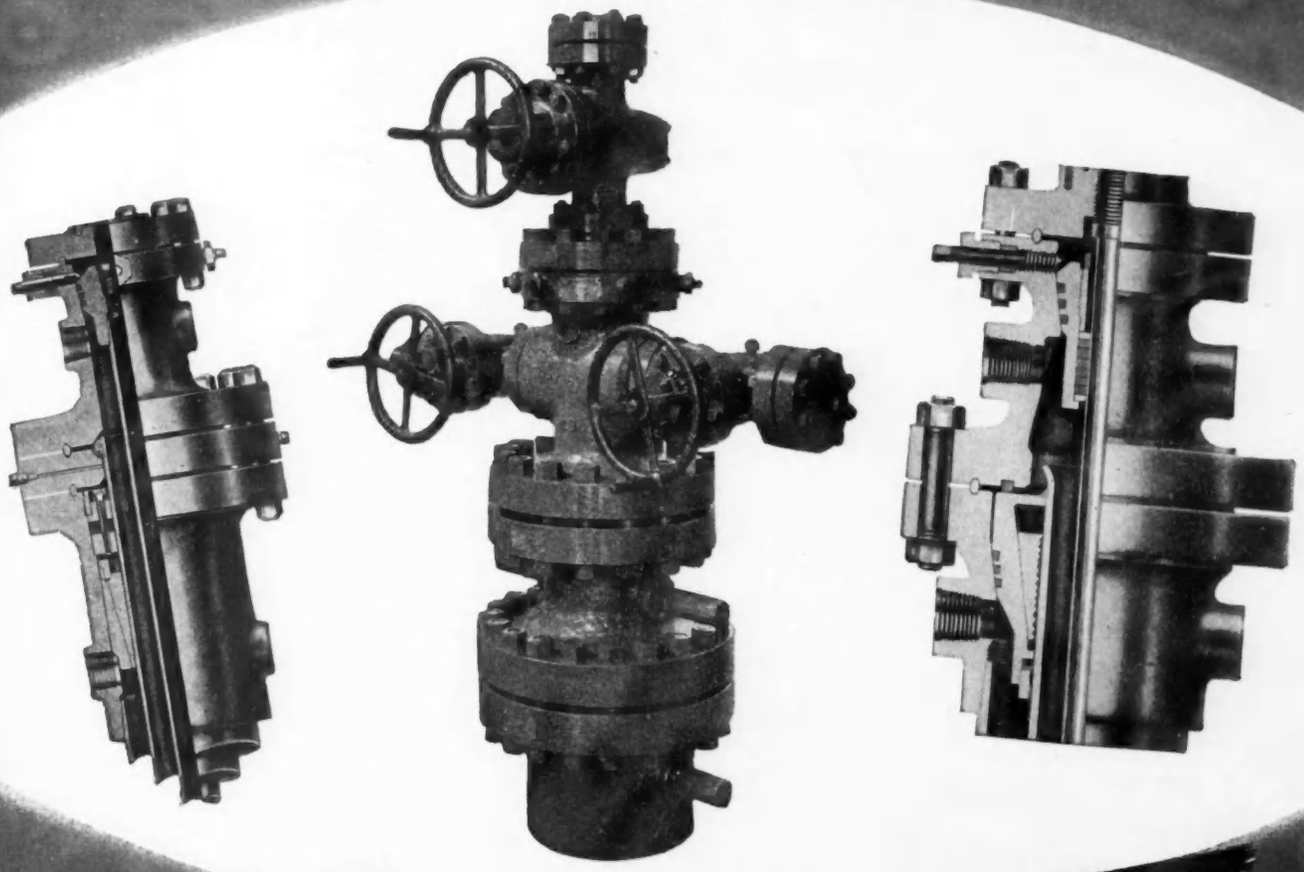
DREADNAUGHT *Well Head and Christmas Tree Assemblies*



Type "HRP-25" Assembly 4000-6000 Lbs. Test

Type "HZX" Assembly 4000-6000 Lbs. Test

Type "HZR" Assembly 4000-6000 Lbs. Test

Pictured above are three of the most popular DREADNAUGHT Well Head Assemblies: The Type "HRP-25" Assembly which features a slip type casing head with resilient seal below the slips and a welded seal above. Provision is made in the welding flange for testing the welded seal. The threaded type tubing hanger is held in sealing position by means of locking screws in the top flange of the tubing head. The Type "HZX" Assembly consists of Type "HZ" Casing Heads with threaded hanger type suspension for casing strings. The tubing head section is the same as illustrated in the Type "HRP-25" Assembly except that it is provided with flanged outlets. The Type "HZR" Assembly provides slip type suspension with seal weld for casing strings, and threaded suspension for tubing string, with polish nipple hanger. The tubing head section is available threaded male or female or for flanged connection to valve.

The complete line of DREADNAUGHT Well Heads and Assemblies is described and illustrated in the Composite Catalog. Additional mechanical data will be gladly sent on request.

ASSOCIATION OF WELL HEAD EQUIPMENT MANUFACTURERS CERTIFIED

BEAUMONT IRON WORKS COMPANY

BEAUMONT, TEXAS

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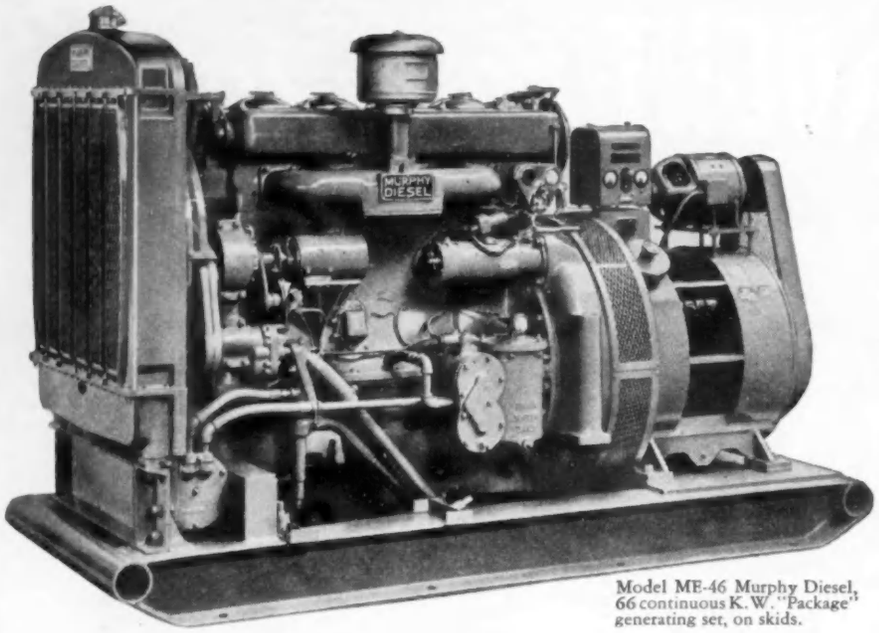

Model ME-46 Murphy Diesel, 66 continuous K.W. "Package" generating set, on skids.

Generator Sets THAT MEET TODAY'S NEEDS

MURPHY DIESEL generator sets are modern . . . engineered for the power demands of *today* . . . ruggedly built to assure reliable, trouble-free operation, plus economy, for many years. Their compactness permits wider adaptability . . . their easy-starting, even in coldest weather, eliminates loss of many man-hours . . . no "premium priced" fuels needed . . . they are efficient in operation and require a minimum of maintenance . . . their comparatively light weight makes them readily portable. You can depend upon Murphy Diesels for *more power, more profit!* Write for bulletin.

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Engines: FROM 90 to 215 HP
Generators: FROM 60 to 115 KW

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Gilbert's Hurdle 1, sw nw 35-22n-16w, abnd 2458 ft.

NORTH LOUISIANA OUTPOST

Tensas Parish—Holly Ridge Failure: Union Producing Co.'s Penrod-Jorden 3, sw se 18-11n-10e, abnd after test of massive sand in Tuscaloosa, td 10,022 ft.

SOUTH LOUISIANA

Calcasieu Parish—Vinton: Union Oil Co. of California's Gray G-20, 990 s 330 e of nw cor 34-10s-12w, perf 5380-5400 ft, 5½-in 5450 ft, pump 158 bbls 32.4-gr oil, 0.1% wtr, ⅛-in, 350/1, td 5618 ft.

Evangeline Parish—Ville Platte: Texas Co.'s Norman-Fee•6, 330 w 660 s of ne cor 33-3s-2e, 20-ac unit, perf 10,180-185 ft, reperf 8972-98 ft, poten 162 bbls 38-gr, 12/64-in, td 10,260 ft.

Plaquemines Parish—Delacroix: Texas Co.'s State-Delacroix 9, lse 335, 477 s 1217.8 e of nw cor 2-16s-14e, sands 7725-65, 8225-75, 8290-8335, 8370-8420, 8875-8920, 9875-9008 ft, perf 8276-84 ft, made ungauged amt gas and condensate, ⅛-in, shutin at 10,018 ft.

St. Martin Parish—Lake Chicot: Amerada-Phillips' Schwing Lbr. & Shingl. Co. B-1, 330 e 990 n of sw cor 30-11s-10e, perf 10,336-341 ft, pump 192 bbls 31.8-gr, ⅛-in, td 11,300 ft.

St. Martin Parish—W. Lake Verret: Shell's Jeanerette Lbr. & Shgl. Co. 14, 1650 s 2970 e of nw cor 14-14s-12e, sands 7454-65, 7489-98 ft, perf 7489-93 ft, pump 315 bbls 35.8-gr, 9/64-in, td 7520 ft.

SOUTH LOUISIANA NEW PAY

Calcasieu Parish — Lockport: Magnolia's Mathilda Miller 36, 330 s 353.5 e of nw cor of sw¼ nw¼ 9-10s-9w, sand 7252-79 ft, perf 7250-57 ft, 7264-68 ft, 5½ 7374 ft, pump 125 bbls 41.3-gr, 9/64-in, td 7374 ft.

MICHIGAN

Allegan County — Fillmore: W. Spencer Cook's Ryzenga 1, se nw nw 2-4n-15w, Traverse, flow 120 bbls 9 hrs, td 1530 ft.

Carl Grime's Pelon 1, se ne ne 3-4n-15w, Traverse, pump 25 bbls, td 1531 ft.

Arenac County—Deep River: Ervin Major's Klein 1, s½ sw se 5-19n-4e, Dundee, dry, abnd 3119 ft.

Basin and Rayburns' Peters 1, s½ ne ne 7-19n-4e, Dundee, flow 490 bbls 13 hrs, td 2851 ft.

Missaukee County—Enterprise: Sun's Miller 1, s½ nw ne 13-23n-5w, Richfield dolomite, pump 15 bbls, td 4625 ft.

Muskegon County—Dalton: Muskegon Oil Corp.'s Zelinka 1, sw sw ne 10-11n-16w, Traverse, pump 26 bbls, td 1844 ft.

Newaygo County—Goodwell: Pure's Fikel 1, e½ se se 6-14n-11w, Traverse, flow 414 bbls 11 hrs, td 2894 ft.

Mecosta County—Fork: Mogul Oil Co.'s Vincent 1, c sw se 8-16n-7w, Dundee, td 3865 ft.

Ottawa County—Walker: Kilrega Dev. Co.'s Kort 1, ne sw sw 23-7n-13w, Traverse, pump 19 bbls, td 1887 ft.

MICHIGAN WILDCATS

Allegan County — Failure: James T. McGerry, Tr.'s Haveman 1, se nw ne 30-2n-11w, Traverse 1636 ft, abnd 1639 ft.

Iosco County—Failure: Ervin Major's Welch 1, se sw sw 33-23n-9e, Dundee 2485 ft, abnd 2537 ft.

Kalamazoo County—Failure: Harris Oil Co.'s Drobney 1, sw sw sw 31-1s-12w, Traverse 1273 ft, abnd 1276 ft.

Barry County — Discovery: H. E. Smith's Lechleitner 1, nw ne sw 2-1n-9w, Traverse 1805 ft, flow 59 bbls, td 1807 ft.

Isabella County—Failure: Leslie T. Barber's Cairl 1, se se sw 33-13n-6w, abnd 1352 ft.

MONTANA

Glacier County—Cut Bank: Wm. Hanlon's Tribal 4, 196, ne nw ne 30-32n-5w, pump 126 bbls Cut Bank 2885-2925 ft, 7-in 2852 ft, td 2930 ft.

Grace Haggerty's Tribal 2, Contr. 4, se sw sw 24-32n-6w, swab 75 bbls Cut Bank 3087-3127 ft, 7-in 3111 ft, td 3150 ft.

A. & J. W. Show's Tribal 1, Contr. 2, nw nw se 32-32n-5w, swab 120 bbls Cut Bank 2820-92 ft, 7-in 2852 ft, td 2912 ft.

Toole County—Kevin-Sunburst: Texas Co.'s Davey 12, se sw se 3-35n-2w, pump 73 bbls oil, 8 bbls wtr, 500 gals acid 1670 ft.

Toole County—High Gravity: Cobb-Hardrock Oil Co.'s Govt. 4, ne sw sw 18-35n-3w, pump 210 bbls, td 2444 ft.

NEW MEXICO

Eddy County: Bay Pet. Co.'s Leonard 1, ne ne nw 33-17s-29e, flow 80 bbls, 2-in, shot 510 qts 2678-2732 ft, 100 qts 2440-2620 ft, td 2740 ft.

Franklin Pet. Co.'s Canfield 4-A, c sw sw 7-18s-30e, flow 275 bbls, 2-in, shot 60 qts 2777-2811 ft.

Penn Surgical Co.-Bay Pet. Corp.'s Schuler 2, ne se sw 5-18s-29e, flow 55 bbls, 2-in, shot 510 qts 2480-2600 ft, td 2607 ft.

Perry B. Pet. Co.'s Leonard 1, 33-17s-29e, pump 192 bbls, 438-443 ft.

Saiken & Aid's Flynn-Welch-Yates 2, nw se nw 25-17s-28e, pump 11 bbls, shot 20 qts 809-814 ft, td 852 ft.

Lea County—Lynn: T. P. Coal & Oil Co.'s

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Independent's record of many years service to the world's leading oil producers in North and South America merits your consideration

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EXPLORATION COMPANY

HOUSTON, TEXAS

State 11-A-X, 660 ft nsl 1830 ft ewl 9-23s-36e, flow 480 bbls, 32/64-in, 2000 gals acid 3666-68 ft, td 3710 ft.

Lea County—Maljamar: Shell's State 1-A, c sw se 29-17s-33e, elev 4061 ft, salt 1320-2440 ft, flow 200 bbls, 18/64-in, shot 220 qts 4260-4317 ft, td 4327 ft.

Shell's State 2-A, c nw se 29-17s-33e, flow 130 bbls, 18/64-in, shot 220 qts 4270-4341 ft.

OKLAHOMA

Caddo County—W. Cement: Phillips' Oaks 3, ne sw se 34-6n-10w, Med 5783 ft, flow 205 bbls, 5988 ft.

Carter County—Tussy: J. S. Batson's Dorothy 2A, sw ne nw 5-1s-3w, sand 3358-66 ft, pump 20 bbls, 3380 ft.

Creek County—Hickory Grave: Sun's Lowe 1, ne ne sw 10-14n-7e, Prue 2667 ft, shot 260 qts, pump 12 bbls, 2757 ft.

Creek County—Stroud, SE: Phillips' Arrington 2, nw se sw 17-14n-7e, Prue 2888 ft, shot 240 qts, flow 22 bbls, 2961 ft.

Phillips' Chapley 3, se ne nw 17-14n-7e, Prue 2861 ft, shot 240 qts, flow 103 bbls, 2935 ft.

Hughes County — Gregory: (semi-wildcat) A. N. Adelson's Crawley 1, c ne ne 1-9n-11e, Gil 2625-60 ft, abnd 2958 ft.

Kay County—Unnamed: Ingling & Parker's Stone 2, se se se 30-25n-1e, Layton 3207 ft, abnd 3207 ft.

Kay County — Vernon: West Virginia's Vaughan 2, ne nw se 20-29n-1e, Miss 3343 ft, shot 30 qts, pump 36 bbls, 3388 ft.

Kay County—Cushing: Sinclair Prairie's E. Billey 8, nw se se 28-18n-7e, B'ville 2562 ft, shot 80 qts, 100,000 gas, td 2803 ft, pb 2624 ft.

Okfuskee County—Bearden, NW: Chapman et al's Deatherage 6, nw ne se 1-10n-8e, Crom 3420 ft, shot 30 qts, flow 75 bbls, 1,000,000 gas, 3432 ft.

Foundation's Scott 4, se sw ne 1-10n-8e, Crom 3420 ft, flow 223 bbls, 3478 ft.

Oklahoma County — W. Edmond: H. H. Wagener's Lenhart 1, c nw ne 5-13n-4w, Bois de'Arc 6800 ft, flow 300 bbls, 6912 ft.

Dickey's Cookham 1, (semi-wildcat) c sw nw 28-14n-4w, Hunton 6680 ft, 1000 gals acid, flow 300 bbls, 2820 ft.

Fox-Schmitz's Wagner 4, c se sw 32-14n-4w, Hunton 6800 ft, 1000 gals acid, flow 300 bbls, 6978 ft.

Okmulgee County—Gypsyhill: E. S. Adkin's Craig Badger 1, ne sw ne 35-13n-11e, Wilcox 3233 ft, abnd 3247 ft.

Osage County—Flat Rock: W. A. Davidson's Osage 2, ne ne ne 7-20n-12e, Miss 1790 ft, abnd 1800 ft.

Osage County—Barnsdall: L. B. Jackson's Osage 12, se sw ne 3-24n-11e, B'ville 1765 ft, shot 140 qts, pump 15 bbls, 1836 ft.

Pottawatomie County—Wanetta: Texas' C. M. Burton 1, nw sw sw 21-6n-3e, Sylvan 3955 ft, Viola 4038 ft, Wilcox 4443 ft, abnd 4565 ft.

Stephens County—Velma: Texas' J. M. Robberson 5, c nw ne 35-1S-5w, 10,000 gals acid, Viola 6480 ft, Sylvan 8010 ft, Viola 8460 ft, temp abnd 8690 ft.

Stephens County—W. Loco: Texas' J. W. Vandervoort 3, ne nw se 8-3s-5w, Loco 976 ft, Arb 1901 ft, abnd 1903 ft.

Sinclair Prairie's Lowery 3, sw se nw 6-3s-5w, Limy 1034-54 ft, soft sd 1160-90, 3000 gals acid, pump 120 bbls, 1190 ft.

Stephens County—Velma: Magnolia's Tony-Frensley 4, sw se ne 26-1s-5w, Penn 1143 ft, 500,000 gas, td 1830 ft, pb 1160 ft.

Stephens County—W. Duncan: T. H. McCasland's Blaydes 1, sw ne sw 24-1s-9w, sand 2848-2888 ft, abnd 2889 ft.

T. H. McCasland's R. Baker 1, ne nw ne 25-1s-9w, sand 2462-90 ft, 22,340,000 gas, td 2710 ft, pb 2483 ft.

WEST CENTRAL TEXAS

Jones County—Hardy: Great Lakes Carbon Corp.'s Hardy 2, 1350 ft nsl 1100 ft wel H&TC 11, blk 2, 2nd producer, elev 1622 ft, Flippen 2270 ft, Gunsight 2630 ft, Canyon 3705 ft, flow 168 bbls 39.5-gr, 3/16-in, 250/1, sand 3705-11 ft.

Stephens County—Brownville: T. P. Coal & Oil Co.'s Brown 3-C, 3100 ft fr nw 420 ft fr swl BBB&C Ry. sec 113, A-23, elev 1135 ft, Bend 3242 ft, Miss 4340 ft, pump 143 bbls, 2000 gals acid Miss perf 4326-45 ft, td 4365 ft.

WEST CENTRAL TEXAS WELL DEEPENED

Palo Pinto County: T. P. Coal & Oil Co.'s Stuart 148, 250 ft snl 2000 ft wel T&P Ry. 74, blk 4, otd 1770 ft, Bend 2980 ft, Barnett 4190 ft, Miss 4385 ft, Ellen 4420 ft, 351,000 gas Marble Falls 3880-93 ft, td 4517 ft, pb 3922 ft.

WEST CENTRAL TEXAS WILDCATS

Bosque County—Failure: John Coats et al's Callan 1, 1200 ft nsl 3330 ft ewl, Presley Bryant sur, Pat No. 3-1130, elev 811 ft, abnd 3608 ft.

Coleman County — Discovery: Hunter & Hunter-Sohio's C. C. Williams 1-B, sw ne sw T&NO RY. 18, blk 2, elev 2018 ft, Morris 3331 ft, Gray 3755 ft, flow 880 bbls, 45.8-gr, ¾-in, 610/1, Strawn (Gray) 3768-99 ft.

Jones County—Discovery: Eason Oil Co.-Jones & Stasney's J. D. Freeman 1, 1930 ft nsl 660 ft ewl Henry Virm sur No. 263, elev 1762 ft, Gunsight 2793 ft, pump 15 bbls oil, 5 bbls wtr, 2500 gals acid 2793-2815 ft, td 2820 ft, pb 2815 ft.

Jones County—Failure: Jones-Stasney et al's Sternholm 1, c ne se BBB&C Ry. 188, elev 1516 ft, Palo Pinto lime 3252 ft, abnd 3284 ft.

Taylor County—Failure: West Central Dr. Co.-Ungren & Frazier's Brown 1, 330 ft snl 1808 ft fr m/e/wl 217.55-ac tr, David T. Bruce sur No. 135, elev 1688 ft, abnd 2370 ft.

WEST CENTRAL TEXAS NEW PAY

Shephens County—Ibex Discovery: Phillips' J. E. Wild 1, nw ne nw sec 58, Blind Asylum Lands, elev 1367 ft, Bend 3425 ft, Marble Falls 4016 ft, Ellen 4346 ft, flow 672 bbls 44.5-gr, 5/64-in, 811/1, 2000 gals acid Ellen 4362-75 ft.

WEST TEXAS

Andrews County—Mabee: Texas Co.'s Mabee 6, c ne ne G&MMB&A 44, blk 40, T-2-N, pump 356 bbls, shot 203 qts 4716-51 ft, td 4756 ft.

Andrews County—Mascho: Fuhrman Pet. Corp.'s Thornberry 3, 659 ft nsl 2008 ft ewl PSL 23, blk A-42, flow 149 bbls oil, 12% bs&w, 1-in, shot 660 qts 4300-4592 ft, td 4600 ft.

Crane County—Sand Hills: Magnolia's Lea 28, c sw sw PSL 16, blk 32, flow 136 bbls 31.4-gr, ¼-in, 7000 gals acid, td 4675 ft.

Crockett County—Soma-Noelke: T. P. Coal & Oil Co.'s Fee 4, unit D, 330 ft out se cor nw-100-ac of sec 27, M. T. Wilson sur, flow 415 bbls, ½-in, 1301-13 ft.

Cochran County — Slaughter: Devonian et al's Duggan 42-A, 560 ft snl and 510 ft wel lab 4, lge 55, Oldham CSL, flow 718 bbls, 12,000 gals acid 4969-5012 ft.

Devonian et al's Duggan 17-B, 510 ft out nw cor lab 22, lge 55, Oldham CSL, flow 1159 bbls, 12,000 gals acid 5035-69 ft.

Gaines County — Wasson Deep: Carl B. King-Bay Pet. Corp.'s Blair-Sinco 2, c ne se PSL 39, blk AX, elev 3518 ft, abnd 8096 ft.

Hockley County—Slaughter: Jerry Hawkins et al's Mallet 73-A, 580 ft out ne cor lab 7, lge 47, Edwards CSL, flow 221 bbls, 8000 gals acid 4876-4955 ft.

Jerry Hawkins et al's Mallet 14-B, 580 ft out se cor lab 23, lge 46, Edwards CSL, elev 3638 ft, brown lime 3730 ft, San Andres 4040 ft, pump 25 bbls, 16,000 gals acid perf 4850-95 ft, td 4929 ft, pb 4900 ft.

Honolulu's Slaughter 50-B, 665 ft out sw cor lab 21, lge 37, Zavalla CSL, flow 942 bbls, 10,000 gals acid 4925-5020 ft.

T. F. Morrow et al's Tyner-Sun 3, 440 ft out ne cor lab 25, Lge 45, Edwards CSL, elev 3618 ft, pump 350 bbls, 10,000 gals acid 4915-43 ft, td 4980 ft, pb 4943 ft.

Permian Oil Corp.'s Mallet 27-B, 510 ft out ne cor lab 20, lge 47, Edwards CSL, flow 911 bbls, 2-in, 11,000 gals acid 4955-5015 ft.

Stanolind's Slaughter 28-A, 510 ft out ne cor lab 54, lge 37, Zavalla CSL, flow 1733 bbls cas, 11,000 gals acid 4990-5080 ft.

Texas Co.'s Slaughter 151, 1400 ft snl 1331 ft ewl lab 76, lge 38, Zavalla CSL, flow 1220 bbls, 10,000 gals acid 4952-5037 ft.

Pecos County—Apco: Skelly's Crockett 3-A, 2101 ft nsl 2612 ft ewl T.C.Ry. 5, blk 110, Ellen. 4430 ft, 20,000,000 gas, open flow, 2500 gals acid 4450-90 ft, td 4673 ft.

Pecos County—Lloyd (Apco 1600): Childress Roy. Co.'s Masterson 1-D, 2310 ft fr nw 330 ft fr nel H&GN 75, blk 10, flow 41 bbls 2-in, shot 80 qts 1640-59 ft, td 1662 ft.

Pecos County—Walker: R. A. Barger-Lloyd Edwards-Paul S. Oles' White-Baker 1, nw nw nw T.C.Ry. 4, blk 207, pump 35 bbls, 66 bbls wtr, shot 90 qts 1871-95 ft.

Pecos County — Yates: Mack Hays et al's White-Baker 1, c n½ se se GC&SF 11, blk 194, flow 46 bbls, 2-in, 1835-87 ft.

Reagan County—Big Lake: Big Lake Oil Co.'s University 24-C, 514 ft snl 1530 ft ewl sec 25, blk 9, elev 2679 ft, Crinoidal 8195 ft, Ellenburger 8255 ft, abnd 8309 ft.

Winkler County—Weiner: Ralph Lowe et al's Brown-Altman (Humble) 18, sw se sw PSL 17, blk B-5, flow 220 bbls, 1-in, shot 150 qts 3120-80 ft.

Sun's Halley 8-B, c nw se PSL 4, blk B-11, flow 193 bbls, ¼-in, shot 200 qts 3037-64 ft, td 3142 ft.

WEST TEXAS WELLS DEEPENED

Upton County—McCamey: Sid W. Richardson's Harlan 1, 990 ft fr ne 1320 ft fr nwl T.C.Ry. 11, blk R, otd 2158 ft, pump 16 bbls, 2065-2170 ft.

Richardson et al's Harlan 2, otd 2150 ft, pump 15 bbls, 2% wtr, 2075-2172 ft.

WEST TEXAS WILDCATS

Crosby County—Failure: Rodgers Bros. Dr. Co.'s Belding 1, 660 ft snl 1980 ft wel W. T. Ry. 4, blk D-15, elev 2614 ft, San Andres 2122 ft, jkd & abnd 2877 ft.

Dawson County — Failure: Seaboard Oil's Spraberry 1, c ne ne T&P Ry. 38, blk 34, T-5-N, elev 2919 ft, anhydrite 1570 ft, salt 1650-2140 ft, Yates 2190 ft, San Andres 3535 ft, Lower Clear Fork 6630 ft, abnd 7679 ft.

Gaines County—Failure: Humble's Cox 1, c sw ne PSL 14, blk A-11, elev 3552 ft, anhydrite 1920 ft, Yates 3100 ft, frosted grains 3120 ft, San Andres 4600 ft, abnd 11,651 ft.

Pecos County—Gas Discovery: Standard of Texas' Mac-Der Co. 1, lse 4, c ne nw T&St.L. Ry. 36, blk 144, elev 2643 ft, detrital 5084 ft, granite 5306 ft, 10,900,000 gas, 9/16-in, natural, San Andres perf 4706-30 ft, td 5313 ft, pb 4730 ft.

Yoakum County—Failure: Hickok P&D Co.-Harry Reynolds' Price 1, c ne ne sec 342, blk D, elev 3743 ft, anhydrite 2310 ft, brown lime 4120 ft, San Andres 4530 ft, abnd 5306 ft.

SOUTHWEST TEXAS

Duval County—Cadena: Texas Co.'s Garcia 1, 330 ft fr n&wls, Blackstone-Hardeman sur, nw cor 1463-ac lse, abnd 6510 ft.

Duval County—Clara Driscoll: Stanolind's Driscoll 3, 2650 ft fr nl 25 ft fr wl T&NO sur 6, abnd 3867 ft.

McMullen County—South Calliham: Morris Drilling Co.'s Claunch 3, 150-ac lse, Michael Hely sur, abnd 1030 ft.

Starr County—North Rincon: Sun's Coates-

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FORT WORTH, TEXAS

You'll never look at a better Pin End

Never, because this is the pin end of an *Axelson* Sucker Rod.

The reputation for quality is something which must be earned. That is why, during the past half century, the name Axelson has become synonymous with *Quality* wherever oil is produced.

Axelson Sucker Rods, for example, are not ordinary rods. All materials used have been developed after years of *constant* research and experiment. Laboratory and field tests have proven that the Axelson Sucker Rod pin end is correctly designed to successfully handle tough lifting jobs.

Axelson furnace and forging equipment is constructed to give complete control of rod uniformity; and frequent, rigid inspection *guarantees this uniformity.*

Internal strains in metal, resulting from partial heat treating and forging, are eliminated in huge automatic, temperature-controlled *normalizing* furnaces which treat Axelson Rods *in their entire length.* Axelson's famous "vanishing" threads are accurately machined in true concentricity with rod body.

The advantage of Axelson Sucker Rod manufacturing processes is evidenced by fewer rod breaks, less "down time"; and lower production costs.

With ever deeper wells and heavier pumping loads, there can be no compromise in the quality of the sucker rods you use.

If you want *efficient, trouble-free* service, you'll never find a better sucker rod than an Axelson!

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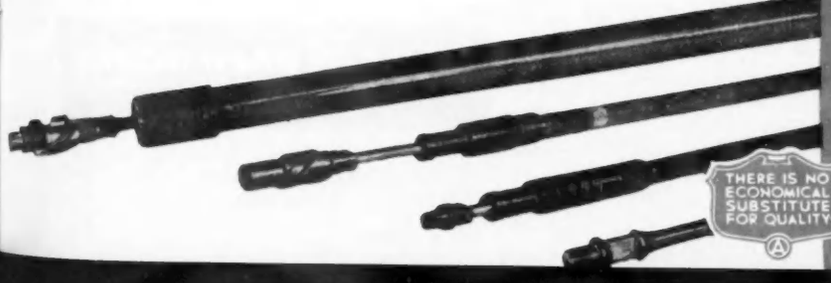

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AND
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THE GEOTECHNICAL CORPORATION

ROLAND F. BEERS

President

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Telephone LD 101

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Research Laboratory

CAMBRIDGE, MASSACHUSETTS

State 2-A, 1108-ac lse, S. T. Cooper sur 518, abnd 9522 ft.

SOUTHWEST TEXAS EXTENSION

Duval County—Southland: Hiawatha's Miller 15, 466 ft fr n&el's sec 22, Ball Rch subdvn, Santos Flores Gr, 3159-ac lse, 7-in 4531 ft, pay 4531 ft, flow 102 bbls, 5/32-in, td 4536 ft. Extends prodn 4400 ft nw Longhorn field.

SOUTHWEST TEXAS WILDCATS

Brooks County—Failure: Sun-Humble's Lasater 1, Gyp Hill area, 1760-ac lse, HE&WTRR sur, abnd 6767 ft.

Jim Hogg County—Failure: Arkansas Fuel's Spoonts 1, 9844 ft fr nl 10,930 ft fr wl 10,512-ac lse, Jose Manuel Ramirez Gr, abnd 5014 ft.

Star County — Failures: J. B. Stoddard's Guerra de Sanez 1, 160-ac lse share 21-B, Miguel Perez porc 106, abnd 4011 ft.

Sun's Samano 2, Yturria area, 1794-ac lse, share 79, porc 38, 39, 40, Juris de Reynosa, abnd 4921 ft.

Webb County—Failure: Coastal Refineries' Benavides 1, s end Cole field, blk 4, sur 411, abnd 2356 ft.

SOUTH CENTRAL TEXAS

Atascosa County—Imogene: Humble's Jones & George 1, 40-ac unit tracts 205 & 206, Simmons subdvn, Rogue Mauricio sur 604, 5½-in 7590 ft, flow 118 bbls, ⅛-in, td 7606 ft.

SOUTH CENTRAL TEXAS WILDCATS

Atascosa County—Failure: Humble's Pruitt 1, 2000-ac lse, 2½ mi sw Charlotte, abnd 7069 ft.

Medina County—Failure: Frank A. Brown's Wynne 1, 185-ac tr Joseph Campbell sur 24, abnd 1162 ft.

Milam County—Failure: J. C. McKeehan's Patillo 1, 172-ac lse Jose Leal Gr, 3 mi n Minerva, abnd 122 ft.

Williamson County—Failure: Fritz Fuchs' Fee 1, 50-ac lse, Williford Cartwright sur, abnd 1100 ft.

LOWER TEXAS COAST

Bee County—Blanconia: Pure's May 1, 330 ft fr nl 1485 ft fr el 207-ac lse, Michael O'Donnell sur, 5½-in 4075 ft, perf 4004-16 ft, flow 8,000,000 gas, td 5331 ft.

Dewitt County—Slick: Barnsdall's Riedel 2, 330 ft fr nel 1480 ft fr sel 80-ac lse, Marcus Sewell sur, sand 7615 ft, 7-in 7638 ft, perf 7618-36 ft, flow 416 bbls, 3/16-in, td 7638 ft.

Forest Development Corp.'s Poetter 2, 330 ft fr swl 1420 ft fr sel 80-ac lse, Obid Marshall sur, 7-in 7640 ft, perf 7621-30 ft, 259 bbls, 5/32-in, td 7640 ft.

Jackson County — Little Kentucky: W. L. Pickens' Mauritz 1-A, 523 ft fr nl 467 ft fr el 165-ac tr, blk 11, Foster, Meyer & Knipling subdvn, Morris & Cummins sur 34, pay 5696 ft, 5½-in 5701 ft, perf 5695-99 ft, 88 bbls, 7/64-in, td 5701 ft.

Jackson County — Mayo: Texas Co.'s McCrory 3, 660 ft fr s'ly nl 660 ft fr w'ly wl, GF&MT Simons sur, 184-ac lse, 5½-in 5480 ft, perf 5314-30 ft, jet 30 bbls, td 5480 ft.

Jackson County—West Ganado: Pure's Niebhur 3, 495 ft fr sel 2300 ft fr wl 700 ft fr nl 125-ac lse, William Menefee sur, 5½-in 4776 ft, perf 4767-74 ft, flow 76 bbls, ⅛-in, td 4776 ft.

Jackson County — West Ranch: Humble's Toney 13-B, 5279 ft nw'ly alg nel fr e cor at w bank Lavaca river, th 692 ft sw'ly at ra on 496-ac lse, Ramon Musquez Gr, 5½-in 5717 ft, perf 5547-70 ft, flow 194 bbls, ¼-in, td 5726 ft.

Magnolia's West Ranch 263-A, 1350 ft s of nearest point on s shore of Menefee Lake, 11,582-ac lse, Ramon Musquez Gr, 7-in 5106 ft, perf 5097-5103 ft, flow 96 bbls, ⅛-in, td 5106 ft.

Jim Wells County — Seeligson: Magnolia's Seeligson 55, 660 ft fr sl 19,575 ft fr el, Los Jaboncillos Gr, 20,887-ac lse, dual comp, 7-in 6175 ft, perf 5968-72 ft, flow 112 bbls, 7/64-in; perf 6104-06 ft, flow 167 bbls, 7/64-in, td 6230 ft.

Karnes County — Hobson: Seaboard Oil's Swize 2, 500 ft fr s&wl's 108-ac tr, Don Erasmo Seguin Gr, abnd 4142 ft.

Nueces County — Agua Dulce: Richardson Petroleum's Union Central Life 4, 660 ft fr wl 3150 ft fr nl 320-ac lse, sec 304, Palo Alto Gr, perf 6542-48 ft, flow 85 bbls, ⅛-in, td 6585 ft.

Nueces County—Baldwin: Magnolia's Baldwin 17, 620 ft fr nl, J. P. McConnel sur 911-ac lse, 7-in 3967 ft, perf 3903-07 ft, jet 432 bbls, td 3970 ft.

Nueces County — Richard King: Southern Minerals' Richard King 31, 2250 ft fr wl 4000 ft fr sl sec 32, Casa Blanca Gr, abnd 6325 ft.

LOWER TEXAS COAST WILDCATS

Bee County—Failure: Stanolind's Roche 1, 1000-ac lse, Dietrich, Baumacher & Longenheim sur, abnd 5080 ft.

DeWitt County — Discovery: Sohio's First National Bank 1, 660 ft fr ne&sel 197-ac tr out of s cor, James Warmsley sur, 3½ mi sw Yorktown, 5½-in 7248 ft, perf 7085-90 ft, flow 36 bbls, ¼-in, td 8504 ft.

Hidalgo County—Failures: Sun's Fitzpatrick & West 1, 4209 ft fr interior sw cor 8550 ft fr s'ly sl 5500 ft fr w'ly wl 3697-ac lse, porc 73, 74, 65, abnd 6508 ft.

Sun's Garza 1, 2722-ac lse share 2, San Salvador del Tule Gr, abnd 9013 ft.

Texas Co.'s Rich 1, 6 mi se LaReforma, 12,250-ac tr, Julian Farias Gr, abnd 7542 ft.

Jim Wells County—Failure: Smith & Story's Gonzales 2, Armagosa area, 500-ac lse, La Tinaja de Lara Gr, abnd 2795 ft.

TEXAS GULF COAST

Chambers County—Fig Ridge: C. M. & V. W. Frost's Fee 5, 467 fr n&el of nw¼ se¼ sec 95, HT&B sur A-149, s offset J. M. Frost A-2, sand 8478-8571 ft, perf 8496-8520 ft, pump 259-61 bbls 35.3-gr, 5/32-in, td 8571 ft.

Jefferson County—Stowell: Crown Central Pet. Corp.'s Ehrlich et al 1, 40-ac unit in nw cor sec 46, Theo Koch subdvn, L. Lopez sur A-37, perf 7841-55 ft, pump 19 bbls 49.2-gr cond, 7/64-in, 31,500/1, td 9117 ft.

Glenn H. McCarthy et al's J. Ehrlich et al 2, 1743 fr s 1100 fr el 163.29-ac lse lot 46, Theo Koch subdvn, L. Lopez sur A-37, abnd 9236 ft.

Texas Co.'s Koch-Santa Fe Unit 1, 330 fr s&wl 40-ac unit, Theo Koch subdvn, F. Valmore sur A-54, n offset to Gulf Owens 1, elev 19.1 ft, dual comp, sand 7784 ft, perf 7810-20 ft, pump 411 bbls 38.2-gr, 0.1% wtr, 12/64-in; B sand perf 7625-35 ft, pump 312 bbls 34.1-gr, 0.1% wtr, 12/64-in, td 7850 ft.

Jefferson County—Lovell Lake: Humble's Broussard Tr. 52, 11,503 s alg el fr ne cor 1653.2-ac lse th 2972.7 w at ra 730 ne of No 35 1100 se of No 51, abnd 7775 ft.

TEXAS GULF COAST WELL DEEPENED

Chambers County—Seabreeze: Sun's O. H. Acom 1, se¼ sec 103, 640-ac lse HT&B sur, perf 8400-12 ft, pump 526 bbls 30.5-gr, ¼-in, otd 8335 ft, td 9533 ft.

TEXAS GULF COAST WILDCATS

San Jacinto County — Failure: Stanolind's Roberts Co. 1, 660 fr n&wl 518-ac lse, Uriah Gibson sur A-133, abnd 8519 ft.

Trinity County—Failure: Navarro Oil Co.'s E. R. Bolton et al 1, 660 n&e of sw cor blk 88, abnd 6287 ft.

Tyler County—Failure: Humble's Denman Kountze et al 1, 580 fr n 330 fr wl lot 11, 80-ac tr, went dry, abnd 8010 ft.

EAST TEXAS

Freestone County—Cayuga: Amerada's Berk 11-a, 175 ft se of Berk 11, jkd prod, E. G. Rector sur, flow 83 bbls, ⅛-in, natural, Woodbine 4014-20 ft.

Wood County—Quitman: Rogers Lacy et al's Republic Ins. Co. 1, 330 ft wel and 1700 ft nsl of tr & F. S. Chaney sur, elev 417 ft, Georgetown 5198 ft, Paluxy series 6305 ft, abnd 6340 ft.

EAST TEXAS WILDCATS

Fannin County—Failure: N. I. Wynn et al's Lowery 1, 105 ft snl 300 ft ewl of tr, Hammond Smith sur, abnd 745 ft.

Leon County—Failure: Iseman & Gieski's Merrill 1, 1200 ft fr sw midway between nw & sel 56-ac tr, R. Clark sur, elev 348 ft, abnd 2314 ft.

EAST TEXAS NEW PAY

Franklin County—New Hope 4th Oil Pay Discovery: Tide Water-Seaboard Oil Co.'s C. D. Elledge 1, 497 ft snl 500 ft wel, I. Barre sur, west outpost, dual producer, elev 464 ft, massive anhydrite 7180-7306 ft, Bacon pay

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6 Transformers
8 G. E. Manual Controllers, Service oil well pumping type C. R. 3209-60 cycle, D. L. 2203414, 35-15 H.P., 440 Volt, three-phase, with grid stand
6 3 sheave Ideco production crown blocks, 3 sheave 22″ x 2″ 15/16 trunnions, W/2—10″ x 7″ beams
1 Cable tool drilling crown block complete, W/5 sheaves, one 30″ crown sheave, one 26″ sand sheave and 4-24″ casing sheaves all having 5″ trunnions, W/Bearings, 4 Beams 12″ x 8′
8 Boykin counter shaft and pulleys
7 Parkersburg standard rig complete with wooden band-wheel, wooden beam, steel pitman, Rex beam hangers
3 Westinghouse Nuttall Geared Units, 35-15 H.P.
5,000 ft. 10-inch casing, 20,000 ft. 7-inch casing, 15,000 ft. 2-inch tubing, 10,000 ft. ⅝-inch rods.

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7323-43 ft. Gloyd 7570 ft, Young 7726 ft, Pettit 7898 ft, Hill (discovery pay) 7431 ft, perf 7433-46 ft, flow 412 bbls 45.3-gr, 192/1, 10/64-in, flow 178 bbls 50.5-gr, ⅝-in, 1154/1, open hole, Travis Peak 8200-99 ft, td 8300 ft.

TEXAS PANHANDLE

Gray County: Stanolind's Benedict 2, 993 ft nsl 570 ft wel s½ se H&GN 55, blk B-2, pump 79 bbls, shot 100 qts 2940-83 ft.

Hutchinson County: Continental's Sanford 10-D, 2305 ft nsl 995 ft ewl n½ H&TC 77, blk 46, pump 200 bbls, 2838-2912 ft.

Moore County: Phillips' Vinson 1, 2671 ft snl 2636 ft wel H&TC 92, block 44, elev 3780 ft, 3,800,000 gas, 6000 gals acid 3491-3609 ft, td 3765 ft, pb 3609 ft.

NORTH TEXAS

Archer County: H. Grace Prod. Co.'s Henry 8, 1010 ft snl 2090 ft wel sec 35, blk 5, Clark-Plumb sur, pump 30 bbls, broken sand 916-31 ft.

Martin Properties' Purcell 2, 1000 ft snl 200 ft wel of 63¼-ac tr, Jose Ostane sur A-333, abnd 1247 ft.

J. A. McCarty-J. P. Coleman's Taylor 9-A, 802 ft snl 900 ft wel lot 13, sec 17, ATNCL sur, pump 125 bbls, 1630-44 ft.

Chas. E. Morrison et al's Hammond 1, 330 ft snl 500 ft ewl lot 1, H. Corzine sur, abnd 1402 ft.

White & Duncan's Richardson-Texaco 4-B, 180 ft nsl 537 ft ewl of n½, W. C. McCune sur A-943, abnd 1240 ft.

Archer County—Cooper: Consolidated Oil Co.'s Knight 1, 660 ft snl 1980 ft ewl blk 70, KWVFL, KMA 4120 ft, Bend 4575 ft, pump 19 bbls, 4500 gals acid Basal Bend 4871-80 ft, td 4950 ft.

Archer County — Vogtsberger: Walter H. Gant-Tom Medders' A. Vogtsberger 2, 467 ft nsl 1900 ft ewl lot 81, sec 3, German Emigration sur, flow 528 bbls, 1-in, broken Strawn 4687-4730 ft.

Clay County: Texas Co.'s Boddy 8, 400 ft fr No 3 625 ft fr No 7, HT&B Ry. sur A-222, pump 22½ bbls 14 hrs, 1051-58 ft.

Clay County—Burns-Midway: L. T. Burns et al's M. Stephens 1, 500 ft snl 2725 ft wel blk A, Webb subdvn of San Augustine University sur, elev 974 ft, Mississippi 6058 ft, pump 29 bbls oil, 15 bbls wtr, 11,000 gals acid 6058-86 ft.

Clay County — Ross: Continental et al's Williams 3, 4800 ft nsl 3520 ft ewl, Wm. Walker sur, flow 117 bbls, 16/64-in, natural, Strawn 4015-25 ft.

Clay County — Wynn: Sinclair Prairie's Spikes 1, 450 ft snl 330 ft wel, James Cook sur A-751, elev 1013 ft, Bend 5780 ft, Miss 6165 ft, flow 3022 bbls oil, 4,250,000 gas, 1-in, natural, perf 6175-6250 ft, td 6402 ft.

Jack County: Jas. M. Ellis et al's Ellis-DuBose 4, 467 ft snl 425 ft ewl lot 4, J. W. Williams sur A-877, pump 5 bbls, 495-500 ft.

Jack County—Ellis: Hanlon & Buchanan's Jones 3-B, 447 ft s 3190 ft e of m/w/nw cor of 91-ac tr, Lot 5, J. W. Williams sur, Bend 4768 ft, flow 435 bbls, 16/64-in, 3000 gals acid 4775-98 ft.

O. J. Perrin et al's Bryant 1, 495 ft out ne cor of 277-ac tr, W. Berryman sur A-40, elev 1070 ft, Bend 4728 ft, Marble Falls 5019 ft, abnd 5026 ft.

Jack County—McDonald: Standard of Texas-Hanlon & Buchanan's Loving 1, 495 ft out nw cor 80-ac tr, J. B. Irvine sur A-312, flow 197 bbls, ¼-in, 3462-69 ft.

Montague County — Hildreth: Sinclair Prairie's Prestwood 1, 330 ft out nw cor s-85 ac of sw sec 56, W. T. Herrin sur, Bend 6118 ft, Barnett 6476 ft, flow 882 bbls, 3-in, natural, perf 6156-6266 ft, td 6503 ft.

Wichita County: Kemrow Co.'s Burnett 60, 1470 ft snl 650 ft wel of n-60 of e-160 ac s½ HT&B 6, pump 2 bbls 962-80 ft, td 1859 ft.

Magnolia's Goins 15, 959 ft snl 1020 ft wel sec 29, Red River Valley Lands, pump 8 bbls, 1832-48½ ft, td 1859 ft.

Wilbarger County—Main: Texas Co.'s J. W. Cook 1, nw sw nw H&TC 9, blk 8, pump 132 bbls 1000 gals acid Gunsight perf 2786-94 ft, td 2850 ft.

Young County: Belfort Oil Co.'s Wray 1, 330 ft out nw cor of s-162 ac of n-320 ac, J. P. Hume sur, Bend 3988 ft, Miss 4671 ft, pump 5 bbls oil, 10 bbls wtr, shot 30 qts 3216-35 ft, td 4707 ft, pb 3235 ft.

Allen Guiberson et al's Montgomery 1, 330 ft out sw cor blk 19, T. H. Smith sur A-2230, Palo Pinto 953 ft, Capps 1388 ft, abnd (litigation) 2729 ft.

Young County—Allar: Panhandle & Ben Rankin's Allar 19, 2350 ft snl 2699 ft wel of s-1185 ac sec 3409, TE&L Co. sur, flow 300 bbls, 16/64-in, natural, 2744-55 ft.

NORTH TEXAS WELL DEEPENED

Jack County—Myers: Hanlon & Buchanan's Myers 4, 1600 ft snl 1200 ft ewl S. P. Ry. 2, A-1592, otd 3450 ft, Bend 4995 ft, Marble Falls 5287 ft, Miss 6005 ft, Ellen 6154 ft, abnd 6216 ft.

NORTH TEXAS WILDCATS

Archer County—Failures: H. D. Egger et al's V. Seay 1, 950 ft snl 550 ft ewl sec 63, Harris subdvn, abnd 1400 ft.

John W. Nichols et al's Cullum-Jones 1, 1075 ft snl 1500 ft wel lot 6, ATNCL 18, abnd 580 ft.

Denton County—Failure: H. L. Hunt Oil

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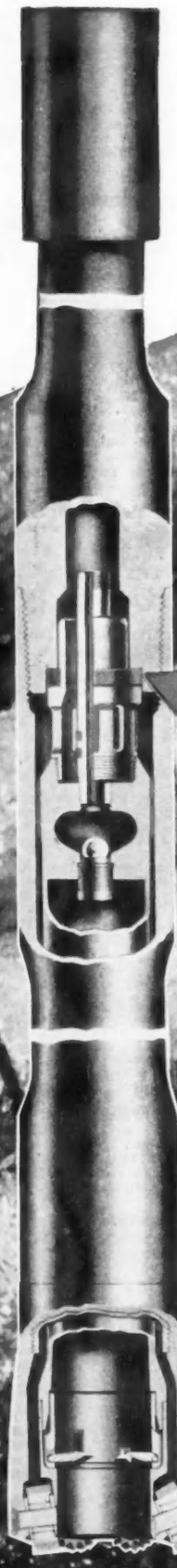

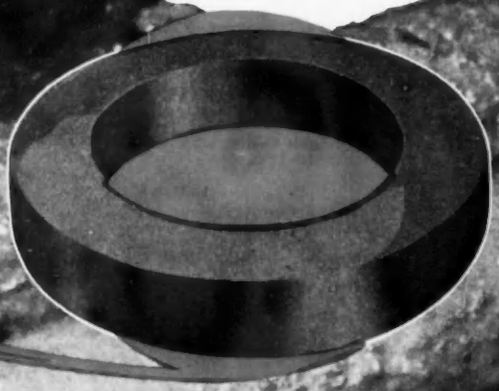

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Co.'s Martin 1, 660 ft ewl 1600 ft snl of e-432 ac, John Parks sur A-1008, Schist 2940 ft, abnd 2978 ft.

Montague County—Failure: S. D. Johnson and Alco Valve Co.'s Howard 1, 4576 ft fr sw 467 ft fr nwl Guadalupe College sur A-286, elev 935 ft, Bend 5873 ft, Viola 6284 ft, Simpson 6543 ft, dolomite 6816 ft, sand 6928 ft, abnd 6947 ft.

NORTH TEXAS NEW PAY

Jack County — Ellis Shallower Oil Pay: Standard of Texas-Hanlon & Buchanan's Joe E. Moore 1, lse 1, 520 ft nsl 495 ft wel of 177-ac tr, W. Berryman sur A-40 (1st Strawn well for Bend area), elev 1107 ft, flow 265 bbls 42-gr, ¼-in, 256/1, natural, sand 3629-37 ft.

WYOMING

Niobrara County—Lance Creek: Continental's Otto Dohlff 16, ne sw sw 32-36n-65w, flow 40 bbls, 1st Sundance sand 3576-3628 ft, 7-in 3480 ft.

Park County—Elk Basin: MacKinnie Oil & Drg. Co.'s Henderson 1, ne ne ne 6-57n-99w, flow 1624 bbls, Tensleep 4814-4986 ft, 7-in 4810 ft.

Stanolind Oil & Gas Co.'s Elk 21tp, 5, ne ne nw 30-58n-99w, 1440 bbls, Tensleep 4202-4404 ft, 6⅝-in 4197 ft.

Big Horn County—Byron: Ohio Oil Co.'s Cozzens 3, Lot 46-56n-97w, pump 510 bbls Tensleep 5042 ft, 7-in 5059 ft, Embar 4966 ft, td 5212 ft.

Park County—Elk Basin: Ohio Oil Co.'s Woods 19, ne nw sw 30-58n-99w, flow 40 bbls hr Tensleep 4704 ft, 5½-in 4806 ft, Embar 4669 ft, td 4903 ft.

Park County—Oregon Basin: Ohio Oil Co.'s Baston 6-A, nw ne se 5-50n-100w, pump 125 bbls oil, 6% wtr, Embar 3598 ft, perf 3692-3706 ft, Tensleep 3850 ft, td 3936 ft.

United States Wildcat Starts

CALIFORNIA

Fresno County: Amerada's Sample F-22-15, c se nw 15-17-19, Lanare area, rig.

Imperial County: Standard's San Felipe 1, nw sw nw 27-11-9, Salton Sea area, lcn.

Kern County: M. Metzenbaum's 34-3, se se nw 34-11-19, Grapevine area, lcn.

Superior's Weston 1, nw sw ne 22-29-21, Cymric area, dr.

Tide Water's KCL 44-22, se se nw 22-30-26, Gosford area, lcn.

Santa Barbara County: Richfield's Los Flores 1, 2564 ft n 2090 ft w sec ppty Los Flores Land tract, Los Flores area, lcn.

ILLINOIS

Shelby County: Texas Co.'s Springfield-Marine 1, se ne se 32-10n-3w, lcn.

Wabash County: Indilliky Oil's Fox 1, sw ne sw 26-1n-12w, lcn.

INDIANA

Parke County: Nye's 1 Bartlaw, sw nw sw 16-16n-8w, lcn.

KANSAS

Barton County: Shell's Stueder 1, nwc se 36-17s-12w, rur.

Brown County: Ohio's Peck 1, sec 15-1s-16e, lcn.

Graham County: Prichard et al's Gudgell 1, sw sw ne 15-6s-22w, lcn.

Kingman County: Gaddis et al's Collingwood 1, nwc se 10-27s-7w, lcn.

Pratt County: Hinkel et al's Elliott 1, se ne nw 31-27s-13w, lcn.

Russell County: Huber's Truan 1, sw sw ne 17-15s-15w, lcn.

Armour et al's Schwein 1, ne nw nw 24-15s-15w, dr 2590 ft.

Saline County: Margay's Millikan 1, nw sw se 31-14s-2w, rur.

KENTUCKY

Butler County: Vetsch's Givens 3, 15-H-33, lcn.

Henderson County: Carter's Waller 1-A, 15-O-22, lcn.

NORTH LOUISIANA

East Carroll Parish: Placid Oil Co.'s Marie Millikin et al 1, 1980 s 660 w of ne cor 22-23n-12e, lcn.

MICHIGAN

Allegan County: Cook and Fortney's Beaver 1, se sw nw 4-3n-12w, rig.

Southwest Dev. Co.'s Gorton 1, nw se nw 13-2n-12w, lcn.

Kalamazoo County: Harris Oil Co.'s Drobney 2, nw sw ne 6-2s-12w, dr.

St. Clair County: E. A. Roth's Roney 1, sw se nw 27-7n-17e, rig.

Van Buren County: Oil Producer's Hartman 1, se se sw 2-3s-16w, rig.

Mecosta County: Gordon and Chapman's Soule 2, n½ sw ne 12-15n-8w, lcn.

Osceola County: Sun's State A1, s½ se sw 35-19n-9w, lcn.

Van Buren County: W. H. Clock's Edwards 1, ne se ne 18-2s-15w, rig.

Wexford County: Hilliard and Fox's Larson 1, n½ nw sw 24-22n-10w, dr.

NEW MEXICO

Lea County: Harvey Yates et al's State-Cities Service 1, c ne se 27-16s-32e, lcn 5000-ft test.

WEST TEXAS

Andrews County: Stanolind's Midland Farms 1-F, 1993 ft snl 1982 ft ewl G&MMB&A 1, blk 42, T-2-N, lcn 6500-ft test.

Crane County: Magnolia's Mary Butler 1, 660 ft out s cor e½ of n½ of s½ H&TC 6, blk 1, mlm for 7500-ft Ellen test.

Crockett County: Ben Banner et al's H. L. Blair 2, 597 ft snl 3800 ft wel I&GN 45, blk 1, 2 mi nw 2203-ft failure, lcn 2000-ft test.

Crosby County: Rodgers Bros. Dr. Co.'s Belding 1-a, 100 ft se of 2877-ft jkd test, W. T. Ry. sec 4, blk D-15, mlm.

Gaines County: Humble's M. S. Doss 1, c sw sw PSL 9, blk A-24, lcn 8000-ft test.

Hockley County: Stanolind's N. S. DeLoache 1, 440 ft out nw cor lab 19, Lge 80, Reeves CSL, lcn 6000-ft Clear Fork test.

Reagan County: Standard of Texas' University 1, lse No 28,358, c nw ne sec 12, blk 12, lcn 2850-ft test.

Ward County: Brown-Hancock & Hines Oil Corp.'s A. F. Bray 1, 2310 ft fr nw&swl H&TC 29, blk 4, lcn 2500-ft test.

SOUTHWEST TEXAS

Duval County: Frank J. Gravis' Vaello Heirs 1, 100-ac tr, A. Garcia Gr, lcn 4000-ft test.

Jim Hogg County: K. D. Harrison & Charles Daubert's Yaegar & Stroman 1, 160-ac lse, sec 8, L. Vela Gr, lcn 3800-ft test.

Starr County: Lockhart & Davenport's Block Realty 2, 193-ac lse, J. de La Garza Falcon porc 80, lcn 2500-ft test.

LOWER TEXAS COAST

Bee County: W. Earl Rowe & Rodney De-Lange's Jancha 1, 187-ac tr, Bee CSL sur 16, lcn.

Jim Wells County: L. M. Josey, Rupert Cox & Dan L. Clark's Jackson 1, Magnolia City area, 87-ac lse, lcn 6200-ft test.

H. F. Wilcox's Almond 1-B, 400-ac lse, HT&B sur 7, lcn 5300-ft test.

Howell & Brewer's Austin 1, 322-ac lse, J. W. Fogg sur 12, lcn 5500-ft test.

Jackson County: Humble's Crawford 1, 367-ac lse, Edward Beaty sur, lcn 6500-ft test.

Brooks County: Sun's Lasater 1-B, Gyp Hill area, 800-ac lse, GB&CNG sur 331, lcn 6000-ft test.

NORTH TEXAS

Archer County: Phillips' L. F. Wilson-American 1, 1980 ft snl 660 ft ewl ATNCL sec 114, within circle of deep failures, lcn 5200-ft test.

Cooke County: Dick Andrade III et al's J. L. & S. A. Newman 1, 660 snl 330 ft wel, C. Collingsworth sur A-211, lcn 4350-ft Strawn test.

Northern Ordnance's C. B. Blagg Jr. 1, 450 ft out se cor 95-ac tract, W. A. J. Finch sur A-373, lcn 4500-ft Strawn test.

Wichita County: Bridwell Oil Co.'s J. S. Bridwell 3, 300 ft snl 1200 ft wel of AB&M Ry. sur A-595, lcn 2000-ft test.

TEXAS GULF COAST

Hardin County: Shell's Kirby Lbr. Co. 1, 4 mi w of Saratoga, 1300 esely at ra fr ely line, J. Kirby sur A-35, 2100 enely at ra fr nly line, A. M. de la Garza sur A-37, lcn 8000-ft test.

Harris County: Humble's Maud Hickman, 660 s&w of ne cor 159.72-ac tr H&TC sur A-458, lcn 8000-ft test.

Wharton County: W. Stewart Boyle's Fred Swenson 1, 467 fr s&el 43.5-ac tr, James Devers sur, lcn 6000-ft test.

EAST TEXAS

Robertson County: Wm. L. Clary and J. S. Fabriquze's W. W. Sandifer 1, 1200 ft fr swl 750 ft fr sel 48.2-ac tr, or 3000 ft fr swl 5000 ft frm nwl M. Grande sur, mlm for 1000-ft test.

Van Zandt County: Texas Co.'s J. M. Easley 1, 660 ft fr ne & nwl 130-ac tr, or 3230 ft fr nwl 1230 ft fr swl N. T. Dickerson sur, 3½ mi s by e of Jackson, lcn 9500-ft Travis Peak test.

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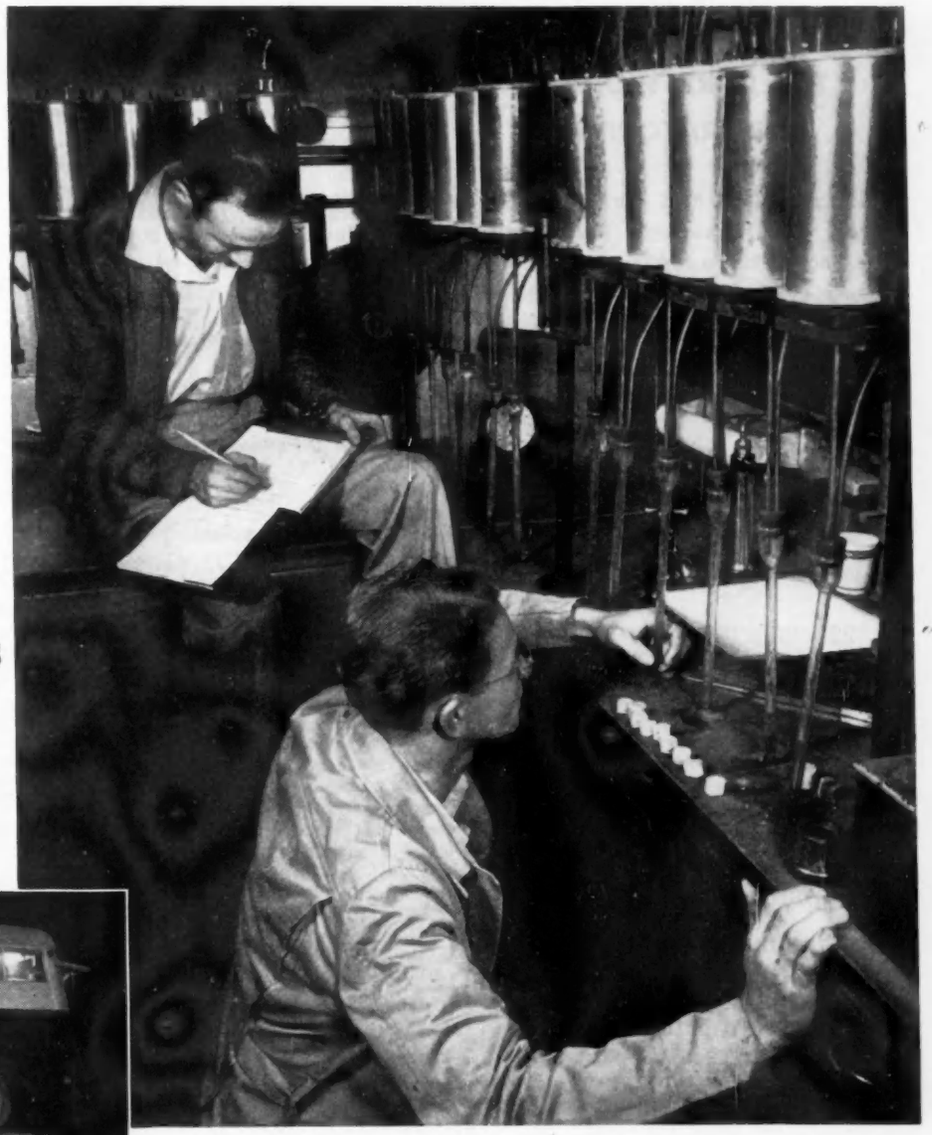

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Petroleum Geologist

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Squeaks from the Bull Wheel

Complaint

A negro walked into the office of the rent control administrator and asked if anyone could tell him who his landlord was.

"Your landlord is the man you pay rent to."

"I don't pay no rent. You see, 'bout nine years ago I found me a house vacant and moved in. I been there ever since and I ain't never paid no rent."

"Well, then, what are you worrying about? You have no complaint."

"Yassuh, I knows that. But if somebody don't fix dat roof I'm gonna move out."

Hopeless

"Dad, did you go to Sunday School when you were a little boy?"

"I sure did. Never missed a Sunday."

"There now, mother. Don't you see? It won't do me any good either."

Moderns

"You must have gotten in quite late, dear," remarked the modern mother. "Where were you?"

"Oh," replied the equally modern daughter, "I had dinner with—oh, well you don't know him—and we went to several places I don't suppose you've been to, and we finished up at a cute little night club. I forget the name of it, but it's in the cellar of an old house on the North Side. It's all okay, isn't it, Mother?"

"Why, of course, dear, it's only that I just like to know."

Ideal Observance

"Dear, tomorrow will be our tenth wedding anniversary. I've been wondering how to celebrate it."

"Bow your head and observe three minutes of silence."

Caution

Gob: "Everything I touch today seems to go wrong."

Gal: "Don't touch me, then."

Sweaters, Too

"I do not like these jackets,"
Said a Wave who was rather thin.
"But," said her friend, "you get out of them
Just exactly what you put in.

Dangerous

A Londoner got on a bus during the blitz. He was carrying a hundred-pound bomb. As he sat down, the conductor asked: "What's that you're nursing on your lap?"

"A delayed-action bomb I'm taking to the police station."

"Good grief," yelled the conductor. "You don't want to carry a dangerous thing like that on your lap. Put it under the seat."

As Ordered

"Did you hear about the marine falling down a flock of steps, with a quart of whisky?"

"No kiddin'—did he spill it?"

"No—he kept his mouth shut."

Not Proven

"They say that brunettes have sweeter dispositions than blondes."

"Well, my wife has been both and I can't see any difference."

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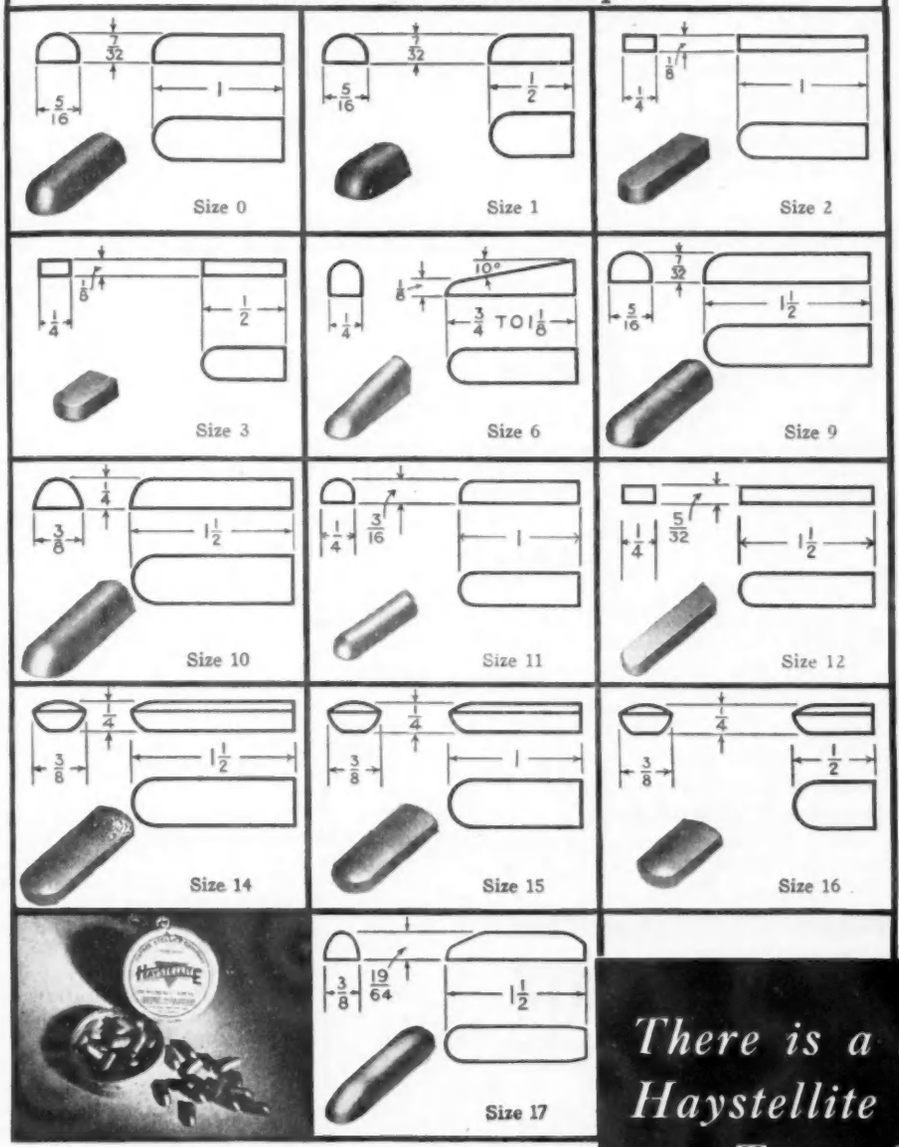
Haystellite Inserts

reduce drilling costs

Standard Sizes and Shapes



Haystellite cast tungsten carbide inserts are supplied in standard sizes. These inserts — almost as hard as the diamond — provide maximum abrasion resistance; and when properly supported, are tough enough to withstand the severe impact encountered in drilling. Good tools — properly set with Haystellite inserts and hard-faced with Haystellite tube rod—drill maximum footage of out-to-gauge hole.

There is a Size and Style of Haystellite Insert for Every Type of Drilling Bit

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HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

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The word "Haystellite" is a registered trade-mark of Haynes Stellite Company.

Notes for the Equipment Buyer and User

Dulin Heads Reorganized International Cementers, Inc.

Byron Jackson Company has acquired the interest in International Cementers, Inc., formerly owned by Schlumberger Well Surveying Corporation. The interests of Dowell, Incorporated, and Baker Oil Tools, remain unchanged. The corporate offices have been moved from Houston to Los Angeles.

E. S. Dulin of Byron Jackson Company succeeds E. G. Leonardon of Schlumberger Well Surveying Corporation as president of International Cementers. Other officers are J. D. Chestnut, executive vice president; N. R. Crawford, vice president and treasurer; R. Henquet, vice president; C. Penhaligen, auditor; W. H. Wiese, secretary and assistant treasurer. The operating personnel, with Ward B. Tennis acting as general manager, remain unchanged.

Directors are A. P. Beutel, J. D. Chestnut, N. R. Crawford, E. S. Dulin, Donald Y. Lamont, F. C. Merritt, C. Penhaligen and T. Sutter.

International Cementers will continue its operations in the cementing and acidizing of wells.

A recently inaugurated service is chemical treatment for dissolving and disintegrating water-deposited scales and sludges from heat exchange equipment.

FILTRATION
Systems and Service

Efficient, economical filtration systems for salt water disposal or feed water purification. Standard filtration methods are intelligently applied to assure proper coagulation and crystal clear effluent.

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"Service, Not Promises"
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Republic Supply Company Opens Shreveport District Office

Republic Supply Company, Houston, has opened a district office at 624 Lake Street, Shreveport, Louisiana, with J. B. Lionberger in charge. He is district manager of the territory comprising Shreveport, Rodessa, Lisbon, Louisiana; Patmos and El Dorado, Arkansas; Kilgore and Talco, Texas; and Jackson, Mississippi, where Republic Supply Company operates stores.

A new store has been opened at Kenedy, Texas, under the management of W. G. Jennings.

L. C. Padden has been named manager of the company's Fort Worth sales office at 1825 Fair Building, Fort Worth, Texas.

Jones & Laughlin Supply Co. Successors to Frick-Reid

Jones & Laughlin Supply Company has been organized to succeed Frick-Reid Supply Corporation, a wholly owned Jones & Laughlin Steel Corporation subsidiary. The change in name was made to more clearly identify the supply company's activities and its relationship to the corporation, it was explained. The principal office of the new company will be at Tulsa.

The new company is exclusive distributor of Jones & Laughlin oil country tubular products east of the Rocky Mountains. For 40 years Frick-Reid Supply Corporation has served all branches of the oil and gas industries and in recent years its activities have been enlarged to include process engineering and construction of refineries, gasoline plants, recycling, repressuring and other types of plants for the oil and gas industries.

J. L. Shakely, who has been with Frick-Reid more than 30 years, and president since 1938, has been elected president of the new company. Other officers, including Robert McCoy, Jr., executive vice president; H. H. Wilson, vice president, and P. R. Warner, treasurer, also have been elected to serve in identical capacities with the new company.

Reappointments in the new company organization include R. P. Mase, chief engineer; N. C. Turner, assistant chief engineer; S. A. Whitehurst, manager of sales; V. C. Canter, general superintendent; L. G. Sutter, assistant general superintendent, all of the engineering and construction division, and Rainey Elliott, sales manager of general supplies.

R. J. Woods will be manager of tube sales of the supply company in the Mid-Continent area, with headquarters in Tulsa. Woods was district sales manager for Jones & Laughlin Steel Corporation in Tulsa and has been succeeded in that capacity by J. H. Tice.

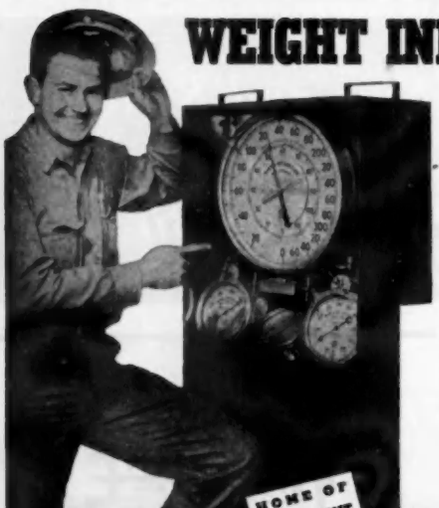
Henry J. McAdams, formerly with Jones & Laughlin Steel Corporation in New York, has been appointed manager of Jones & Laughlin Supply Company, New York office.

H. E. Wagner, district sales manager in the Eastern oil and gas fields for the supply company, is being transferred from headquarters at Bradford, to Pittsburgh. J. K. Lytle continues in the capacity of assistant to Wagner.

The Houston office will continue under the direct supervision of H. H. Wilson, vice president, with T. L. Lewis, who recently joined the organization, as district manager of tube sales. They will be assisted by C. B. Moore, city sales manager; G. S. Emerson, salesman; G. E. Tyson, salesman, and J. T. Batchelor, chief clerk. The latter two were formerly in the tube sales department of Jones & Laughlin Steel Corporation.

F. D. Winslow, district sales manager for Jones & Laughlin Steel Corporation at Houston, continues in that capacity, having charge of the sale of all steel products other than oil country pipe.

WEIGHT INDICATOR POINTS



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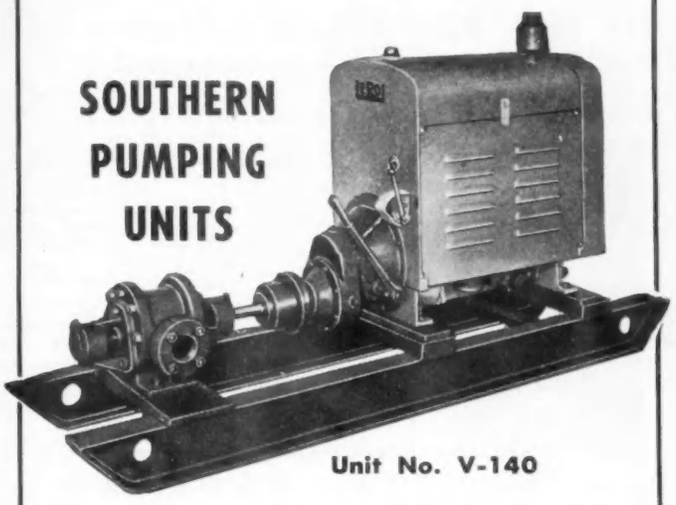

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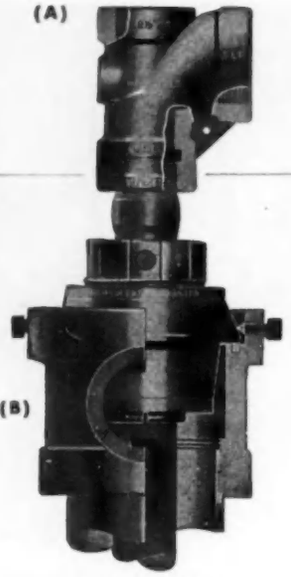

(B)

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Box 286

Men in the Industry's News

JOSEPH H. RUSSELL has been advanced to vice president of Gulf Oil Corporation and Gulf Refining Company in charge of operations in Texas and Louisiana, with headquarters at Houston. Russell was graduated from the University of Texas in 1914 as an electrical engineer and was with Stone & Webster Corporation until joining Gulf Production Company in 1920 as electrical engineer. He was made chief of production engineering a year later, assistant superintendent of production in the Gulf Coast in 1923, and assistant to the vice president in charge of engineering and production in Texas and Louisiana in 1931.

J. R. McWILLIAMS of Tulsa, manager of the production department of The Carter Oil Company, has been named a vice president of the company and appointed manager of the company's expanding northwest division with headquarters at Billings, Montana. He succeeds Ralph E. Damp, who is being transferred to Tulsa as general production superintendent.

McWilliams joined The Carter Oil Company organization in 1934 and two years later was named vice president and director of Standard Oil Company of Louisiana, in charge of producing properties. In 1940 he was president of Louark Producing Company at Shreveport, and in 1941 returned to Tulsa as manager of the production department and was named a company director.

R. L. Clifton, general production superintendent for the last eight years, has been named acting manager of the production department to succeed McWilliams.

E. McCUNE, superintendent of the land department for Sun Oil Company at Dallas, has been placed in charge of the company's expanding natural gas department, with W. E. Wynn, petroleum engineer, as his assistant. Sam M. Gladney, veteran scout and lease man for the company, will be assistant to J. H. Pressley, manager of the land department, and J. E. Buckley, formerly with the company at Tulsa, has joined the Dallas division as land man for the North Texas, Permian Basin and South Central Texas districts.

HAROLD F. SCHOONOVER, superintendent of production for the Pure Oil Company in the Texas division with headquarters at Fort Worth, retired March 16 after 45 years of service, including 16 years with the above company in Oklahoma and Texas. He is a native of St. Marys, Ohio, and began work for the Ohio Oil Company when 18 years of age. He was associated with the Snowden & McSweeney Company for 22 years before joining Pure Oil Company.

ADRIAN MOORE, who has been PAW Director of Production for District 3, with headquarters in Houston, since April 21, 1943, resigned March 18 to resume his activities in the oil business. His offices are in the Gulf Building, Houston.

R. P. BROUTHERNTON, production superintendent for The Texas Company, has been transferred from Olney, Texas, to the Mabee field, West Texas, where the company is engaged in a major development program.

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